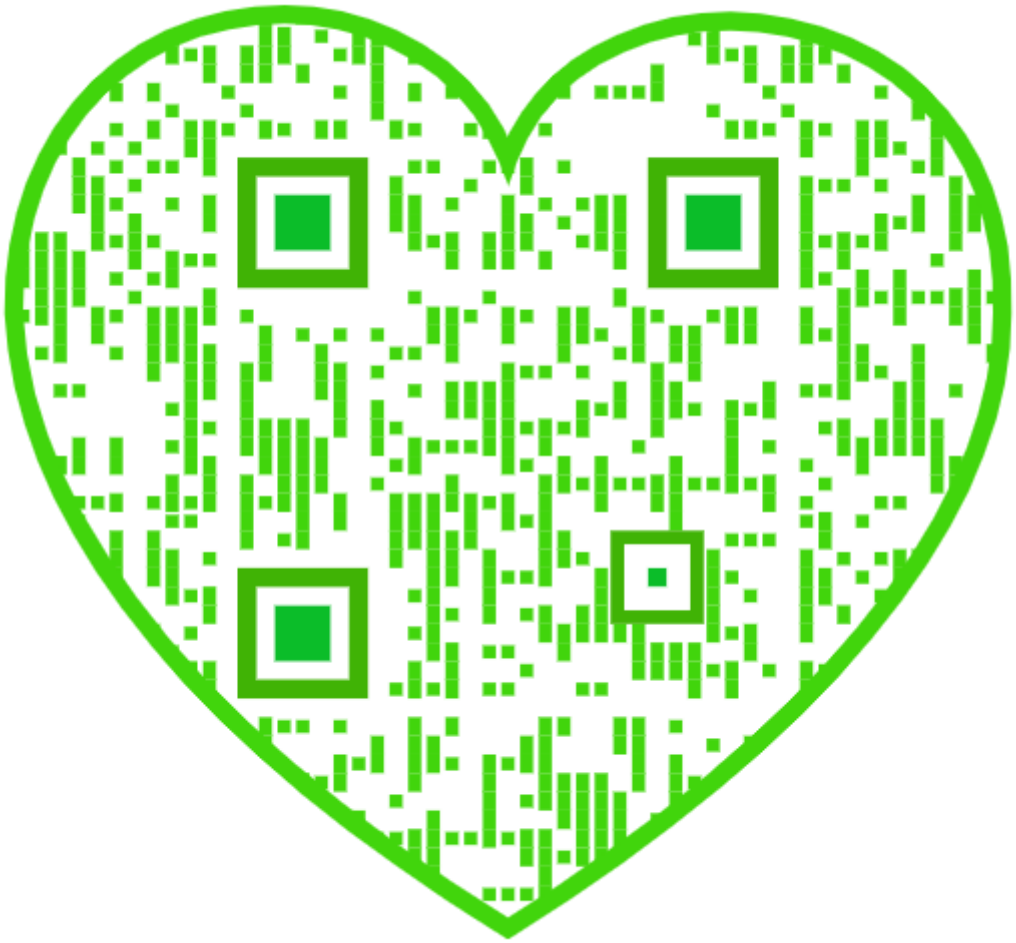
AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JANUARY 2, 1902.

FORTY-SECOND YEAR
No. 1.

MR. W. P. TURNER AND APIARY, OF PEORIA CO., ILL.—(See page 2.)



THE AMERICAN BEE JOURNAL

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To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

MR. FRIEDEMANN GREINER, of Ontario Co., N. Y., writing us Dec. 2, 1901, said:

"We are having a hard winter-time. Our bees went into the cellar just in time. Our outdoor-wintered colonies are seen to—so we feel easy."

THE APIARY OF MR. W. P. TURNER is shown on the first page this week. When sending the photograph, Mr. Turner wrote as follows:

I send a picture of my apiary located five miles northeast from the heart of a city, connected by electric street-car lines. The view is taken from the car-line looking northwest. The hives are fronting south, and are all patterns, but the frames are of the Langstroth type, and will fit in any of the hives.

Your humble servant stands in the foreground, is 57 years old, and has kept bees more or less the past 28 years in connection with farming. But in March, 1900, he abandoned the farm and came to this resort, and built the house on the extreme left, as partly shown in the picture. The good wife and oldest daughter are seen standing in front of the same. (Our other daughter happened to be away when the artist called to take the picture.) Our only son, Chas. L., and his family, are seen in the automobile coming down the street from the west. He and his cousin, F. I. Ellis, are the inventors and builders of said wagon. One or the other, or both of them, use it every day. They promised me an auto-delivery wagon at a future date. Their residences are shown at the extreme right—first is Charles' and next is Ellis'.

The carpenter shop and honey-house are south—just outside of the picture, by, or near, the solar wax-extractor shown; also about 15 more colonies of bees are located between my shop and the barn. The hives, 55 in all, stand 12 feet apart each way. I hope to have, by the end of another year, the little lot filled up, two in a place.

The past has not been a very good year for honey, although I am well pleased with the results. I can wholesale honey here at 15 cents for comb, in 24-pound cases, and extracted at 10 cents a pound, put up in 1½-pound Mason jars.

I used gloves the past season for the first time, and liked them well, as they keep the propolis off my hands, and save my awkward fingers a few stings.

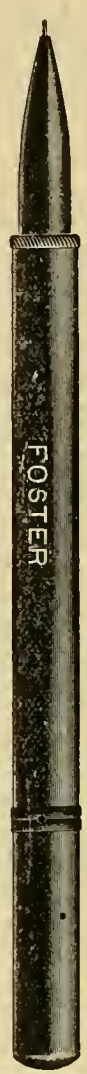
I turned the nozzle of my Corneil smoker around, and think it perfect, as I can shoot the smoke right down on the frames, or in at the entrance, without any trouble. I have made, with a Barnes' combined machine, 80 hives and supers complete, except sections and pattern-slats; also 50 winter-cases that *will* insure bees against winter loss, since Jan. 1, 1901. I have used all the leading supers with varied success, and find I have to use separators on both sides of the sections, to insure nice, straight sections. My supers are made with followers and wedges at one end and side; when the wedges are removed the sections are easily taken out.

I am sorry I did not think to show my "hive-jack" and "uncapping-box" in the picture. The former is fine for holding hives, supers, and covers, for painting, and costs about 75 cents to make it. The latter is the best thing for uncapping I have seen, and costs about $2.00.

The more I read the "old reliable" American Bee Journal the better I like it.

W. P. TURNER.

You might describe your hive-jack and uncapping-box for the benefit of the readers of the American Bee Journal.



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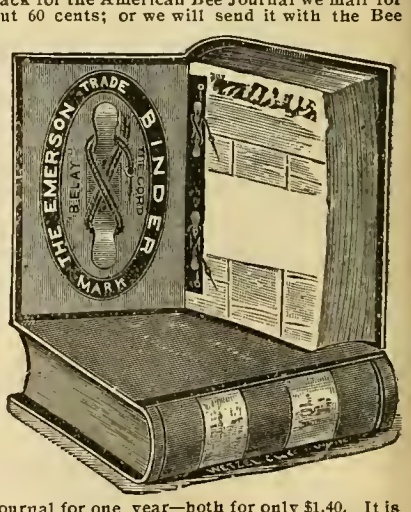

Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JANUARY 2, 1902. No. 1.

Editorial.

The Forty-Second Volume of the American Bee Journal is begun with this issue. Getting old, isn't it? But some things "improve with age," it is said. We trust it may be so in this case. We can not make any great promises as to the future, but we expect not only to do all in our power to maintain the pace already attained, but hope to make even a better record during 1902. With the hearty support of so many sympathetic readers, and with a determination to keep the American Bee Journal in the front rank, we look forward with high hopes to the New Year, and trust that it may bring richest blessings to all, whether readers of these pages or not.

Expressions of Appreciation of the American Bee Journal have been so abundant and hearty during the past few weeks, that we may be pardoned for taking a little space to thank most sincerely those who—whether renewing their subscriptions or requesting a discontinuance—have written us so kindly and so graciously.

Many people think that the world at large is often cold and unfeeling, but we are glad to know that "the world of bee-people" is seldom other than appreciative of honest effort and devoted toil. And to receive so many tokens of such enthusiastic esteem for the American Bee Journal is a source of great encouragement to those who plan and work to make its weekly visits a help and a blessing to all who read it.

So we desire to take this opportunity to thank most cordially all who have helped, in whatever way, to bring joy and gladness to this office, and to assure them that the expressions of appreciation, as well as the more substantial things that more often accompanied them, are greatly prized, and will aid in lightening the labors, as well as the hearts, of all whose united effort creates weekly the old American Bee Journal.

Selection of Drones.—In Le Rucher Belge are given some words of counsel as to rearing queens, from the noted French queen-rearer, M. Girard-Pabou. If the same pains had been taken to breed only from colonies giving best results that have been taken to breed for looks, there can be little doubt as to the progress that would have been made. Some pay little attention to the production of drones, which, for best results, should be tolerated only in two or three choice colonies. C. P. Dadant says the influence of the male is greater than that of the female. Destroy carefully before their birth all drones in colonies other than the choice ones, and from 10 to 3 o'clock close with excluder-zinc the entrances of all colonies from which we do not want drones to fly to meet the young queens.

Honey Tooth-Wash to remove tartar from the teeth: According to Le Miroir, dentists use the following: Muriatic acid, 1 part; water, 1 part; honey, 2 parts.

Cure of Bee-Dysentery.—It is well known that a good flight is a cure for dysentery in bees, but generally little is done to oblige bees to fly except to wait till the weather is warm enough. Loyalstone (in the Australian Bee-Keepers' Review) goes at the matter somewhat heroically, as follows:

> On a warm day remove all bees from the hive, except the frame the queen is on, to a distance of 50 yards from the hive—then shake the bees off the frames, allowing them to fly back to their hive. Two such treatments, with about one hour's interval between them, will generally cure this disease.

Wasps and Bees Compared.—Mr. H. W. Brice has been investigating, and gives some notes in the British Bee Journal. Like the queen-bee, the queen-wasp is impregnated once for life. Unlike the queen-bee, the queens of the wasp (*Vespa vulgaris*) can be, and are, fertilized in confinement. In a state of nature they are fecundated within or in close proximity to the nest. The male wasp can live to fertilize several queens. At the mating season there are more queens than male wasps. While the larva of the bee takes in its food by absorption, the larva of the wasp is fed by the mouth, perhaps through the entire period, certainly after the first three days.

Changing Brood from one colony to another is practiced by many, but not always in the same way. Some think it advisable early in the season to take brood from strong colonies and give to the weak. Others think it advisable to take from the weak and give to the strong. Justification for these two practices so diametrically opposed to each other may be found in the different conditions. In a region where the honey season is long, or where a heavy honey-flow comes late in the season, taking away brood from a strong colony will result in a smaller return from that colony, but that loss will be more than made up by the gain from a weaker colony, which, without such help, would have given little or no return. For it must be remembered that a strong colony does not merely yield in direct proportion to its strength, as compared with a weaker colony. That is, a colony of 50,000 bees will store *more* than twice as much as a colony of 25,000 bees.

On the other hand, in a region where there is a single flow that comes early and does not last long, remembering that it is the strong colonies that are profitable, the bee-keeper takes from the weak and gives to the strong, so as to have as many strong colonies as possible.

In either case it should be borne in mind that brood should never be taken from a strong colony till it is very strong; for up to a certain point the stronger the colony the more rapid the building up; and the mistake of many is to take brood from a strong colony until it is so weakened that it can not continue to build up rapidly. Taking brood from a weak colony to give to a strong is another matter; in that case it is understood that the building up of the weak will be much retarded; but the weak would give no returns anyway, and the returns of the strong will be increased.

Feeding Robber-Bees.—S. E. Miller relates in the Progressive Bee-Keeper that the robbers got the start of him one day, when, for a time, he left the tent in which he had been extracting, and when he returned he found the tent roaring with bees. He filled the tent so full of smoke that they were glad to get out. He continues:

> Still, I knew that after the bees had discovered the inside of my castle they would make extracting more than interesting, unless I could interest them elsewhere. I therefore carried some bodies, containing combs from which I had extracted the honey, outside, took a sprinkler and sprinkled water over the combs in order to keep the bees from becoming crazy, as they would have done had I allowed them to work on the undiluted honey. This worked very well, and I finished up the extracting with very little further bother from the bees. I carried out the empty combs as fast as extracted, and each hive-body full was given a good sprinkling with water.

For Ants About Hives, place a vessel (an old oyster can will do) containing a solution of sugar poisoned with arsenic or Paris green, covered with wire-cloth so that no bees can enter. The Schweizerische Bienenzeitung says this will not only kill the ants, but their brood as well.

The Size of a Queen-Cell, in Australia, according to an article in the Australian Bee-Keepers' Review, is that of an acorn, and of the same shape. Queen-cells must be larger in Australia than here, or acorns smaller.

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Contributed Articles.

Honey Exchange in California—Other Subjects.

BY PROF. A. J. COOK.

IT is a safe proposition to make that anything that tends to improve the condition of the laboring classes, especially the farming part of a community, greatly benefits the whole country. It is equally patent that the farming population stand in need of nothing so much as of some system of general co-operation. Co-operation is in the atmosphere of our day. The farmer alone lags behind and is left out in the cold. All other kinds of business people, even the newsboys of the streets, have their combines. What would our railroads do except that they pool their occupations and all pull together?

I remember one day I was in San Diego, a little after noonday. I must make El Cajon that afternoon, and get back in time for the morning train home. The El Cajon train had left; the distance and roads forbade a wheel, and I must, perforce, depend upon the liveries. I asked the price, and thought the terms exhorbitantly high. The man at the stable stated that it was a long drive, and that I was to make it in quick time. The roads were heavy, and two horses would be required. Said he, "It is not too much."

I still had my opinion, and asked if there were other stables in the city. "Yes," he replied, "there is one just across the street, and several others near by. But," said he, "you will get no better terms. All the stables of the city have combined on prices." I thought, "Good," and secretly wished that all the farmers had combined.

The Citrus Fruit Exchange of Southern California has now been in operation for over seven years, and has been an eminent success. These are the things which it has done: Greatly lessened the expenses in preparing to ship; secured a more perfect grading of the fruit; employed salaried agents of their own in all the leading cities; developed new markets in the East; with surprising success distributed the fruits in the East with such skill as to prevent overcrowding or ruinous competition, and at the same time keeping all the markets supplied; doing all their business at an expense of less than three percent, and though the goods marketed bring in millions of dollars each year, they have met with almost no loss at all—less than one-eightieth of one percent during all their years of business. The receipts of their business the past year have been over eight millions of dollars, and yet there has been no loss at all. This is only one of several years with a similar record.

The wonderful success of this organization has proved, first, that co-operation among farming classes is possible: secondly, that here, as elsewhere, it means a tremendous increase in the profits of business. It works prodigious benefits in two ways—lessens the expense, and greatly advances the market price of the goods to be sold. This organization did one most important thing, if success is to crown the efforts of any such undertaking. They secured a very bright, able man to serve them as their manager—a man who could run a railroad or successfully manage any great corporation. Of course, this requires a large salary. They have paid it, and so far as I know have never grumbled at so doing. Here, too, they have followed the railroads, insurance companies and other such institutions.

I doubt if any farming enterprise throughout the country has met with greater success than has that of the Citrus Orchardists of Southern California. This, too, in the face of the fact that they have to ship their goods often for four thousand miles at exhorbitant traffic-rates. Except for this Exchange, I believe the business could not have been maintained. Many of our best orchardists believed that the Citrus Fruit Exchange saved the citrus industry from ruination.

Last week the honey-producers of this section of the State met at the Chamber of Commerce in Los Angeles, and after due deliberation decided to organize after the fashion of the Citrus Fruit Exchange. I think they have modeled their association entirely after the pattern of the other organization. If they are as wise in their selection of their manager then they can hardly fail of success. Indeed, they have more to hope for than did the other organization at the time of its inauguration. The Citrus Exchange feels a deep interest in all kindred co-operative movements, and have liberally offered to give them the advantage of the services of their agents in the Eastern cities. As these agents have been selected with great care, and are men of rare business energy, tact and acumen, they cannot help but be of signal service to this new enterprise. Similar organizations have been effected by the deciduous fruit-men, the walnut men, and the celery growers, and in every case these later organizations have greatly profited by just this courtesy—service of the salaried agents in the East. So far as I know, nearly all of the members of these several organizations are greatly pleased with their success, and believe heartily that they have substantially bettered their condition by this form of co-operative effort. I sincerely hope that other people throughout the land engaged in agricultural pursuits will also copy this exchange system of Southern California, that these evident benefits may be widely extended throughout our country.

I am all the more hopeful that the bee-men will make their new effort successful, as I hope it will be leaven that shall tell in its influence the country over. Apiarists are usually bright, intelligent, enthusiastic, and given to reading and studying. This will make it easy for other sections to copy any successful method that may bring conspicuous success. I believe the honey-producers of central California and of Arizona have already taken action. If they have not followed the plan which has been so markedly successful with our citrus orchardists, it behooves them to study into this system at once, and if it seems wise, incorporate its cardinal features in their own methods of work.

DISINFECTING FOUL-BROODY HIVES.

I was greatly interested in reading the discussion on disinfecting hives which occurred at the Buffalo meeting. It seems to me that the experience of Mr. McEvoy makes it certain that this expense is unnecessary. I am not surprised that this is so. We are told by experts that the sputum of consumptives if exposed to the sunshine a few minutes loses its power of contagion. It will be remembered that Prof. Waite has shown that the microbes of pear-blight soon die and lose their power for harm if permitted to dry. They must be incorporated in the unctuous environment of pollen-grain or stigma secretion to be potent for harm. It is probable that the resin of buds serves them in like manner. We can easily believe, then, that honey must be the medium of transportation in order that the bacilli of foul brood may maintain their virulence. I think bacteriologists have claimed that these foul-brood microbes exist in the blood of the mature bees, including the queen, yet we have every reason to believe that the malady is spread only through the medium of honey. The suggestion given above also explains this peculiarity.

HONEY PROSPECTS FOR 1902.

The past week has been one of great encouragement to Southern California. Prosperity in every line here hangs upon the rainfall. We sincerely hope, and expectantly trust, that a generous season's rainfall was ushered in on last Tuesday, by a fall of a one-half inch of rain in a half hour. The ground was so thirsty that even the most of this was drunk up so that very little ran off. On Friday another very general downpouring commenced, which, up to Sunday morning, had aggregated two and one-third inches. It has rained some since, and the weather is yet threatening.

I believe California is hardly second to any other country in the production of honey, even though it has many barren years. When we have a year of bounteous rainfall, we then prove a record-maker. Only to imagine an apiary of 200 to 600 colonies all in one locality, and each colony producing upwards of 200 pounds in a single season! An apiarist with such a record can afford occasional years with no product at all. This is the more true from the fact that we have no winter problem in California. Bees fly and gather honey every month in the year. If we except the matter of starvation and foul brood, there are no evils that confront the apiarist except this one of drought and no harvest. Of course, no good apiarist will permit his bees to starve.

We have an excellent foul-brood law, by aid of which each county can secure a competent inspector whose duty it becomes to stamp out this disease wherever it has gained a foothold. Nearly all the counties where bee-keeping is at all important are proceeding under the law.

Droughts are not sufficiently common to become an offset against the enormous production of favorable years.

THE LONG-TONGUED DISCUSSION.

It is an encouraging sign that the bee-keepers have become so generally interested in the matter of the tongues of their bees. It is not alone in connection with the red clover that this matter assumes importance. There are other flowers than the red clover with long nectar-tubes. While it is true

that Italian bees are more persistent workers than are Germans, yet I feel confident that the greater production of honey which comes through this race is not a little due to the fact that they can reach the nectar of many flowers where it is entirely inaccessible to the common black bee.

Mr. Hawley, of San Diego county, said to me a few days since that certain queens which he obtained from an Eastern queen-breeder had greatly surpassed all others in his apiary. I believe that much of this is due to this matter of longer tongues. Some years ago I measured a large suite of tongues from different races. They were all treated in exactly the same way, and I have no doubt that the results were reliable. The record was decidedly in favor of the yellow races.

I am also firmly convinced that the careful bee-keeper can do very much to breed bees that shall have these longer sucking-tubes. It will be remembered that the glossometer which I invented some years since, and which secured a medal at the Paris (France) Exposition, makes it easy for us to determine what bees possesses the longest tongues. In this instrument a square of glass is stretched diagonally from the edge of a similar-sized fine wire gauze to within one-half of an inch of the opposite end. The two triangular edges of this enclosed space consisted of wood. The fourth half-inch space was also closed with a wooden door. By smearing the glass with nectar and placing the instrument in the hive, it was easy to see which bees possessed the longer tongues. If desired, the glass can be ruled, and the distance of each line from the gauze marked. I have no doubt that with this glossometer, coupled with care in breeding, any apiarist might soon secure bees with much longer tongues than he would otherwise have in his apiary. All are free to make and use this glossometer.

Los Angeles Co., Calif., Oct. 28.

James La Barre—Originator of V-Shaped Top-Bar.

BY JOHN R. SCHMIDT.

MR. JAMES LA BARRE, a bee-keeper from the wilds of Kentucky, is not only an accomplished bee-master but also a master of long-distance walking, he having walked from Covington, Ky., to Washington, D. C., a distance of over 600 miles in 23 days.

JAMES LA BARRE.

This was not done for the mere satisfaction of a foolish notion, or accomplishing a senseless bet, but for the purpose of obtaining justice: and, secondly, the means of livelihood justly due him for his services to his country during those long, bitter days of the Civil War.

Through hatred and jealousy, an officer of the company in which he served, caused a serious charge to be placed against him, for which he was promptly court-martialed without even a chance to defend himself. Years after the close of the War, La Barre applied for a pension, and was immediately confronted with the court-martial, and his application was "turned down." His untiring endeavor to clear his name of the so-called injustice done him, led to his going to Washington on foot, to plead his cause before Congress. The case was unheard, owing to the short session of that body last fall, but undismayed by this failure, and with the able assistance of Hon. Shattuc, he will endeavor to be more successful this fall, and vows he will not give up until the unjust charge is removed, and, if necessary, expected to start from his home in Kentucky, again on foot late in October, in order to be present when the body met.

Mr. La Barre is a bee-keeper of extremely keen observation, and one of many practical ideas; his extensive knowledge of the bees having been gleaned through this method, as he reads little from choice.

It is not generally known that it was he who first conceived the idea of a V-shaped top-bar as a comb-guide. Early in the 60's he accidentally noticed that the bees in a box-hive, in building their first comb, extended it along a strip of wood which had been nailed on the inside of the box to cover a crack. Quick to see the point, he applied V-shaped strips where *he* wanted the combs built, and the bees, true to their nature, used these as starting points.

In 1877, while visiting the late Chas. F. Muth, he mentioned the matter, and asked him to apply the V-shaped bar to the frames in the Langstroth hives manufactured under his supervision. It was done, and afterward the V top-bar became a fixed feature of the Langstroth portico hive. Several have claimed this invention, but Mr. La Barre being indifferent as to who reaps the benefit of his bee-knowledge, remained quiet and let them fight it out among themselves.

From boyhood Mr. La Barre has kept bees in Old Kentucky. The many years of association with these loved ones is turning his hair a silvery gray, and bending his once sturdy form. Nevertheless, he loves them still, and the increasing silvery condition of his fast-fading hair only tends to personify a mind that is as clear as a bell. Hamilton Co., Ohio.

Odds and Ends of the Season Cleaned Up.

BY G. M. DOOLITTLE.

BEING mainly through with the hurry of the season of 1901, I have had a little time to look over more carefully the different bee-papers coming to my address than I could do in my hurry during the busy season when they arrived. And in this looking over I came across some items which I will say a few words about.

"SPHYNX-LIKE"—GOLDEN BEES.

The first of these items is found on page 601 (Sept. 19), where Mr. Hasty seems to think that I should do some "shouting" for the "Golden Bees," if they are desirable. And, "on the other hand, if they are undesirable bees, sphynx-like silence while selling them by the hundreds, looks too much like the spider-and-fly sort of ethics." So it would look as if I was compelled to say something in this matter (even though it may look like a little free advertising), or allow the thought to go out that I was willing to play the "spider-and-fly" act.

The real truth is, Mr. Hasty, that I have never "pushed" either the golden or the leather-colored bees, but simply advertised *Italian* bees and queens, making no claims other than the following, which appears in my circular:

> After having thoroughly tested all other races of bees, I have discarded all but the Italians, as none proved so good with me, all things considered. I have taken great pains to breed my bees up to the highest standard of perfection as *honey-gatherers*. I do not claim all that purity of stock that some do, nor lay so much stress on golden bands, but I *do claim* that for *honey-producing* my bees are second to none."

That is all there is of it, Mr. Hasty: and I will leave it to your own good judgment whether there is any "spider-and-fly sort of ethics" there or not. As nine out of ten order the *goldens*, I send them what they order, just the same as I do the other tenth who order the leather-colored stock. Perhaps I can make the matter a little plainer to you.

Mr. Hasty has two daughters. Both are excellent, good girls, and as to excellence of character, winning ways, and working qualities, there is really no choice, which Mr. Hasty knows by years of association. But one has blue eyes and auburn locks, while the other has raven hair and jet black eyes. Mr. Hasty loves both of these girls alike, and sees the goodness of both, regardless of the color of their eyes or hair. In the course of time two young gentlemen come along, and one is infatuated with the golden-haired daughter, while the other sees nothing but perfection in the dark hair and eyes of the other. The first thinks it very strange that the father can not see that the daughter with the auburn hair and blue eyes is superior in every way to the other, and wonders that he is not continually praising her: while the second is considerably "riled" because "Old Man Hasty" is not loud in proclaiming that the one with raven hair and black eyes is the ne plus ultra of the whole family. But Mr. Hasty keeps on in the even tenor of his way, saying, "Both are good girls."

I was never guilty of pushing color or extreme purity, for, like "Pa" Hasty, I have never been able to see that there was anything but minor differences between the two grades of Italians, namely, the dark-colored or golden. And so I have done, as undoubtedly Mr. Hasty would do under like circumstances, allowed the lover of each to make his own selection. But as I was accused of "pushing" the goldens, I simply denied the truth of such a statement, without stopping to qualify the matter as I have taken pains to do here, through Mr. Hasty's having compelled me to do it, that I might not stand as a "fraud" before the public.

"A BACK NUMBER."

And "John Rambler" (page 745 of Gleanings), thought that Doolittle was doing all the "whacking at long tongues," because he was becoming "a back number." Bless your heart, old friend, Martin, I care not whether I am a back number, a middle number, or wheresoever I am, if I can only aid some brother or sister bee-keeper, by making the road a little easier for them. The motto "on the wall" when I am writing for publication has always been, "Help a little." You know the "*good* Book" says, "Bear ye one another's burdens," and, also, "Inasmuch as ye did it to one of the least of these, ye did it unto me." And the man who is working for the uplifting of humanity, by the way of adding his mite to the sum total of knowledge, cares not where he stands in the ranks, and does no "whacking back" because some one remarks on his "losing prestige."

I said what I did on the long-tongue matter because I believed that the pushing of a premature, if not a fallacious, matter, would work injury to the greater number of the bee-keeping world; and results have proven that I had cause so to do. And I pushed with the "vigor" accorded me, that all would know that it was not a "milk and water" halt I was calling. I see that it was necessary under the "stampede" then on, to "swing the red lantern" with all my might, no matter how badly I was "pommelled" for so doing. And I did it, and got the pommelling, too. But I freely forgive *all*, and especially Mr. W. T. Stephenson, (page 598—Sept. 19,) as he did it with the best of motives. Neither can I "place a higher value on long tongues," as Editor York thinks I may (page 627—Oct. 3,) after my experience of the past summer, for the results prove, by a careful measuring of tongues by Prof. Gillette, that those Italians having the shorter give by far the larger yields of red-clover honey. And this also proves that the long-tongue fad was not only permature, but a mistake as well. It is also well to proceed slowly when stepping upon an untried "structure."

LARGE YIELDS—A CORRECTION.

On page 637 (Oct. 3), there is recorded a yield of 340 pounds of section honey, all nicely capped and marketable, together with 10 pounds of honey in sections partly filled, making 350 as a total of section-honey from one colony. And the producer, Mr. John Lenney, wishes to know if "this is not the best record that you have ever heard from one colony;" to which the editor replies in a foot-note: "Yours is certainly a good yield of honey, but we believe Mr. Doolittle once secured 566 pounds of comb honey from one colony in one season." The correction I wish to make is that the 566 pounds which my colony gave was *extracted* honey. (Correction accepted.—Ed.)

My highest yield of comb honey from a single colony in one season was 309 pounds, hence Mr. Lenney's colony went ahead of mine 31 pounds, of marketable honey (as my 309 pounds was all nicely finished), or 41 pounds in all. And unless I have failed to note or remember, Mr. Lenney's 340 pounds of marketable section honey from one colony in one season is the largest yield ever reported, and he should have the credit of it, and of standing "at the head," until some one can rightfully claim that place with a larger yield.

HONEY PRICES—BEING MISUNDERSTOOD.

It seems at times, that, try as hard as I may to make a thing plain, some will misunderstand what I write, and I "fell to wondering" whether the trouble was on my part, or on the part of the reader. Very likely on the part of both, for such is generally the case. My mind was called afresh to this matter in reading page 749, (Nov. 21). There I am credited with advising, in Gleanings, that the producer *retail* his honey at 12 cents a pound where the market quotations will lead us to expect that some commission merchant in a distant city would sell the same at 13 to 15 cents; and nearly a column of space was taken to prove that such advice was wrong.

Well, had I ever given such advice it *would* have been wrong, and surely Editor Root would not have endorsed such a *wrong* thing by putting at the head of that article, or "conversation," the words "orthodox advice," as he did, this showing that E. R. Root understood the matter in the light of selling at *wholesale* (not at retail), as I intended to advise. I have always considered it worth 2½ cents a pound to retail honey by the section, where the same was peddled from house to house, as we would infer that Mr. J. L. Hyde proposes to do with the 700 pounds he will sell out of his 1000, "by a little push of it to families in my vicinity." Pushing it around to families cannot very well mean aught but a retail trade, and hence, in this case I would advise a price of 14½ cents with a prospect of honey selling at 13 to 15 cents abroad.

In the conversation alluded to in Gleanings (pages 781-2—Aug. 15), the reader will note that the honey was all graded and *cased*, which meant the selling by the case at least, and selling by the case is generally considered as a wholesale affair, even though but a single case is taken.

Then I spoke of prices at our nearest *railroad station*, which, it seems to me, could not possibly be construed into a retail affair. And again, I spoke of selling *outright*, which means the disposing of the *whole* crop in a lump; yet notwithstanding, Mr. Hyde interprets *all* of this as meaning "the market price at 12 cents retail."

Then, having misunderstood, he goes on to argue how such advice as I gave would bring the price of comb honey down to 8 cents a pound as "the established price." And "Mr. Hustler" readily sees "why men should not jump at everything that is printed in the bee-papers." When a man starts into a line of reasoning based on false premises, it is quite easy to see something which is not a reality, and a something which would never have "seen the light" had said man made sure he was *right* in his premise at the start.

No, no; Doolittle would never advise doing anything to lower the price of honey, so long as the honey-producer stands to a disadvantage when compared with most of the products of others; nor would he advise ever selling at wholesale where the producer can retail his product at a price enough higher to compensate amply for the labor of retailing.

HONEY ON COMMISSION—A MISTAKE.

Then I think Mr. Hyde makes a mistake where he concludes 300 pounds of honey "is not enough to sell on commission," by which I take it he means that 300 pounds would be too small an amount to ship to a commission merchant in some distant city. Some of the very best sales commission merchants have ever made for me—sales from one to three cents above market quotations—have been where I have shipped them only from 100 to 200 pounds. In fact, the records of these transactions for the past 23 years show that in no case where I have shipped commission merchants 1000 pounds or more of honey has he sold the same at as good an average price as has the same man or firm where I have shipped only from 100 to 200 pounds at a shipment. And the freight is no more per hundred pounds in a single hundred pound shipment, than it is where ten or twenty-five hundred is shipped, as it is always reckoned at so much a hundred pounds, as far as I have had freight-rates quoted to me; with no restrictions as to the number of hundred pounds that must be sent at one shipment.

My idea as to why a small shipment sells for a better price than a large one is, that many of the small grocery men can dispose of the whole of a small lot of honey, where they could not do so with a larger lot; and as the commission merchant is better pleased at not breaking up a shipment, the smaller lots go first, while the prices are generally at their height, or their best; and the larger shipments are only broken up later on, or sold as a whole, and so sell at the reduced price that generally obtains after the holidays are over.

Then, again, the smaller lot is more in the line of a retail trade with the commission merchant, and as the smaller grocer can get just what he wants in the small lot, he purchases the same, even though he pays a little more for it. So don't think that where a bee-keeper has from 100 to 500 pounds more than his home market calls for, that it will not pay to ship the same on commission, for it will pay in two ways: First, it will bring as much, or more, than a large lot in market; and, second, the sending of it away often saves the breaking down of the home market, through the lowering of prices.

Onondago Co., N. Y.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mentioni

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 822.)

Prof. M. B. Waite, of the Department of Agriculture, Washington, D. C., also delivered an address on "The Relation of Bees to the Orchard," but a copy of it has not been secured for publication.

Pres. Watrous then called upon Prof. S. A. Beach, of the New York Agricultural Experiment Station at Geneva, who read the following paper, on

Spraying in Bloom.

Spraying commercial orchards to prevent attacks of injurious insects and diseases is a practice of comparatively recent origin. According to Lodeman (Lodeman, "The Spraying of Plants," 63, 65), the first published record of successful treatment for the coddling moth by spraying with Paris green, is in the Report of the Western New York Horticultural Society for 1879, and the first publication of a regular experiment station to give the results of using Paris green against this insect, is the Annual Report of the New York State Station at Geneva for 1885.

In the period from 1887 to 1894, through the efforts of the United States Department of Agriculture and various agricultural experiment stations, it was demonstrated that by the use of certain fungicides, notably the Bordeaux mixture, some of the most serious orchard diseases, such as apple scab, pear scab, quince leaf and fruit spot, and plum leaf spot, might be kept under control. During the latter part of this period some fruit-growers commenced the practice of spraying orchards systematically to prevent certain diseases. In the treatment of apple, pear, and quince orchards Paris green, or an equivalent arsenical poison, came to be usually combined with the Bordeaux mixture so as to apply both an insecticide and a fungicide in one treatment.

As early as 1889, Cook, then entomologist for the Michigan Agricultural College, stated that bees might be poisoned with Paris green sprayed upon fruit-trees when in bloom. He urged that spraying should not be practiced during the blooming season, and that, if necessary, such a requirement should be made by law. (A. J. Cook, Bul. 53, Mich. Ex. Sta.: 4, 5.)

After that, whenever experiment-station writers published directions upon this point, they uniformly advised against spraying in bloom. In 1896, Webster published the results of experiments conducted at the Ohio Experiment Station in 1892 and 1894, by which it was proved that bees are liable to be poisoned by working on blossoms sprayed with Paris green or with Bordeaux mixture and Paris green. He reports that shortly after some trees were sprayed, one of the colonies of bees located near by became extinct. Arsenic was not only found in the abdomens of the bees, but it was also found in the dead brood in the hive. (F. M. Webster, Bul. 68, Ohio Ex. Sta.: 52.)

We have already noticed that even prior to 1895 some fruit-growers had adopted the practice of spraying their orchards for the prevention of fungus diseases, and of combining with such treatment the application of arsenical poisons to kill the insect enemies. Such was their success that their example was soon followed by many others, and within the next three of four years spraying came to be generally regarded as a necessary operation in successful orchard management. But some of the fruit-growers experienced more or less difficulty in trying to follow the instructions of the experiment stations as to when the spraying should be done, especially in treating large apple orchards. In this eastern section of the country, the apple orchard, as a rule, constitutes but a portion of the farm, the remaining portion being devoted to other crops. At the time when spraying should be done, other important farm work also demands attention. This is especially felt when the season has been unfavorable for field-work. Under such circumstances, when the fruit-grower was crowded with work, the practice of spraying apple-trees in bloom has had its origin. It was tried at first from considerations of necessity or convenience rather than from any idea of the superiority of this plan of treatment over that recommended by the experiment stations. Orchardists who had not completed the spraying of their trees before the blossoming season began, continued to spray in some instances after the blossoms opened. They chose to take the risk of injuring the crop by spraying in bloom rather than risk injury from diseases and insects. Later, the idea that the best time of all for spraying is when the trees are in full bloom gained considerable headway.

As soon as they found that fruit-growers were beginning to spray orchards when in bloom, the bee-keepers at once became much concerned over the effect of such a practice on their business. The publications of experiment stations and of the United States Department of Agriculture assured them the bees were liable to be poisoned by working on blossoms which had been sprayed with insecticides. In New York State the bee-keepers set to work vigorously, and by 1898 secured the enactment of a law which still stands on the statute books, making it a misdemeanor to apply any poisonous substance in any way to fruit-trees in bloom. (Chap. 325, Laws of 1898.) Some of the fruit-growers had by this time become so thoroughly convinced that better results could be obtained by spraying apple orchards in bloom than by spraying at any other time, that they strongly opposed the passage of the law and afterwards tried to get it repealed. Unsuccessful in this, but still confident that their views were correct, they kept at work until an amendment to the law was finally secured, whereby the experiment stations at Cornell University and at Geneva were permitted to spray plants in bloom for the purpose of testing such treatment in comparison with the treatment commonly advised. Accordingly, in 1900, work on certain phases of this subject was undertaken by both of the stations named above. The results, so far as published, are given in Bulletin 196 of the Geneva station, to which publication those who are especially interested are referred.

One of the questions bearing upon the subject of spraying in bloom which is sometimes asked is, whether treating the open blossoms with the spray mixtures does not directly help to set the fruit. An understanding of the way fruit sets will conduce to a clearer idea of what influence the spray mixtures may reasonably be expected to have in this direction. An apple-blossom cut through the middle shows different parts as here illustrated : (The following 6 illustrations are from Bulletin 196 of the New York State Agricultural Experiment Station, Geneva, N. Y.)

The outer green portion which covers the bud is called the calyx. When the blossom opens, the calyx turns backward. It persists on the fruit where it may be seen by examining the blossom end of the apple. Next, within the calyx are the showy flower-leaves. Neither these nor the calyx are essential to the setting of fruit. Up to the time the blossom opens, they give protection to the very delicate central organs, but they may then be cut away without interfering with the setting of the fruit. The essential organs are the stamen and pistil. The pistil occupies the very center of the flower. It divides above into five green threads which at the proper time exude from their tips a sticky fluid. Below it contains the little egg-cells which, when fertilized, develop into seeds. The stamens are thread-like and tipped with yellow sacks of powder called pollen. They surround the pistil. When the pollen alights upon the sticky tip of the pistil—i. e., upon the stigmatic surface, if conditions are favorable—it sends out a sprout in a way somewhat analogous to the sprouting of grain in warm, moist soil. This pollen-tube grows downward through the soft tissues till it reaches the egg-cell, which is then fecundated and thus stimulated to continue growing into seed.

This, in brief, is the way feltilization of the apple takes place. If fertilization does not take place, there is no further development and the entire flower withers and falls away. Since the essential organs are composed of very tender tissues, it is not surprising that injury may follow when they are hit by the spray mixtures. Neither is

it strange that Bordeaux mixture should prevent the germination of the pollen. The Bordeaux mixture holds its position as a leading fungicide, because it prevents the growth of fungous spores. The germination of pollen is more nearly analogous to the germination of fungous spores than to the germination of grain cited above. Since the Bordeaux mixture is deadly to one, it may be expected to have a similar effect upon the other. That it does have such an effect is proved by laboratory experiments which formed a part of the investigations previously mentioned. The ordinary combination of Bordeaux mixture with an arsenical poison prevented the growth of pollen in laboratory cultures, as also did even lime alone, while in corresponding cultures, in which these substances were not present, the pollen germinated and pollen-tubes grew. Bordeaux mixture alone—1 to 11 formula—was added to cultures in varying proportions, and the effect was remarkable. With 200 parts of it in 10,000 parts of the culture media, the growth of pollen was practically prohibited, for the pollen did not grow except in rare instances; 100 parts in 10,000 in some cultures, but not in all, wholly prevented the germination of the pollen; sometimes 50 parts in 10,000 gave a similar result, and even the very slight proportion of 2 parts in 10,000 in some cases showed an unmistakably adverse influence on pollen-germination. Since pollen must alight upon the stigmatic surface, and there germinate before fertilization can take place, these results are highly significant to the fruit-grower.

From the facts which have been presented it is clear that applying the spray mixtures on the open blossoms, instead of assisting directly to set the fruit, may wholly prevent it.

But some fruit-growers feel sure that spraying in bloom has caused a positive improvement in their apple crop. How can such results be accounted for? One of the worst diseases in New York apple orchards is the scab. Does spraying in bloom give some degree of protection against this disease? It is well known that the amount of damage from this disease varies greatly in different seasons. In 1896, for example, the apple crop was remarkably free from injury from the scab, even on trees which had never been sprayed. In 1898, on the contrary, in Western New York, the scab became virulent so early in the season that in many cases it killed a considerable portion of the blossoms, and later continued the destruction on the immature fruit.

The apple-blossoms grow in clusters having perhaps from 5 to 7 in the cluster, although the number may vary considerably. They do not all open at the same time. The one in the center opens first and is normally the strongest and forms the largest fruit. Those immediately around the central one open next in order, and lastly the outside blossoms of the cluster open. The whole process generally takes from a week to 10 days in this part of the country. It varies with weather conditions. When the last ones are opening, the central blossom has usually passed out of bloom. Not only is there this difference in the time when the different flowers in a cluster open, but also in the same way tree-clusters which are less exposed to the heat of the sun are correspondingly retarded in blooming. Consequently, all of the clusters on a tree do not begin blooming at the same time. It appears, therefore, that there is no one time when all the apple-blossoms on a tree are open. Of those which are open, some are sure to escape being hit in the center when the spraying is done in an ordinary way.

When there is an abundance of bloom, and when the apple-scab becomes destructive as early in the season as the time when the blossoms are opening—as was the case in 1898—spraying once in bloom might not destroy enough of the blossoms to reduce the crop of fruit seriously and yet give a degree of protection against the scab which would result in improvement in the amount and character of the crop; but it has not yet been demonstrated by rigid experiments that even in such a season spraying in bloom gives superior results to those which may be obtained by spraying just before and just after the blooming season. In order to get conclusive evidence on this point, it will be necessary to continue the experiments till a season arrives when the conditions are somewhat similar to those which obtained in Western New York in 1898.

Does spraying in bloom ever bring about an improvement in the crop by thinning the fruit?

In the experiments reported in the bulletin already cited, it was found that apple-blossoms which were treated with the spray—the ordinary combination of Bordeaux mixture and an arsenical poison—in the early part of the blooming season, generally failed to set fruit. Blossoms which had been open several days before they were hit by the spray seemed to have reached a stage where such treatment did not interfere with the setting of the fruit. Some results which are apparently conflicting, may be reconciled by a clear understanding of this point. It appears that there is a difference between the older blossoms and the newer ones as to their susceptibility to injury from spray mixtures.

Experiments were also made in which portions of trees were sprayed repeatedly during the blooming season, thus hitting the new blossoms as they open from day to day. As a consequence, scarcely any blossoms set fruit, nearly all being destroyed by the treatment.

One spraying, if well done, may be expected to destroy a large portion of the freshly-opened blossoms, and thus thin the fruit. Such a result was in fact obtained in some of the experiments with apples in 1900, and with pears in 1901. In case there is a light bloom, it seems that spraying at a time when most of the blossoms are freshly opened, may cause the loss of a considerable portion of the crop. Some fruit-growers who have tried it have become convinced that spraying under such conditions has caused them very serious loss.

In the experiments in which spraying in bloom has thinned the fruit, the amount of marketable fruit has not always decreased. Such results are similar to those obtained where the fruit has been thinned by hand. This suggests the practical question, whether the process of spraying plants in bloom may be used as an economical method of thinning the fruit. Our experiments on this point have not been carried far enough to give conclusive results.

In our investigations we have tried to find out what effect the application of the ordinary spray mixtures to open blossoms has upon the blossoms and upon the crop of fruit. There is another phase of the subject which interests the fruit-grower, and that is the extent to which bees and other insects are needed for cross-pollination in order to secure a good setting of fruit. It has been proven that with some varieties cross-pollination must occur before any fruit can be formed. Others are fully capable of setting fruit without cross-pollination. Between these two extremes are found many imperfectly self-sterile varieties, among which are all gradations between self-sterility and self-fertility, with corresponding independence of or dependence upon cross-pollination for the setting of fruit. Even some varieties which are classed as self-fertile, may produce better fruit when cross-pollinated than when self-pollinated.

Pollen is naturally distributed from one blossom to another by the agency of either winds or insects. Some kinds of pollen are easily distributed by winds; others are not adapted to wind-distribution, but are easily carried by insects. Apple-pollen belongs to this latter class. Whether or not the fruit-grower may secure better crops when insects aid in distributing the pollen, must be determined by learning the needs in this direction for each particular variety of fruit which he grows. In case he is growing self-sterile or imperfectly self-fertile varieties having pollen not readily distributed by winds, the poisoning of bees and other insects which visit the blossoms would work him injury. He then would have a common interest with the bee-keeper in preserving the lives of the insect visitors of the flowers.

A considerable amount of work has been done for the purpose of determining which ones among our cultivated varieties are self-fertile, and which are imperfectly self-fertile or self-sterile. At some experiment stations further investigations on this subject are in progress. Much yet remains to be done, however, in order that full and satisfactory information on this important point may be available to the fruit-grower.

Another question which is worthy of attention in relation to the subject of spraying in bloom is the effect of fungicides upon bees. We have seen that if spraying in bloom results in an improvement of the crop of apples, such improvement may come in part from protection against the attacks of the scab fungus, and in part from thinning the fruit. Neither Paris green nor any other recognized insect poison is needed to secure these results. They may be obtained by using Bordeaux mixture alone. It is desirable, therefore, to know whether there is any danger of poisoning bees by spraying blossoms with fungicides alone. It is worthy of remark in this connection, that in all of the extensive use of Bordeaux mixture it has not yet been known to poison insects. Finally, from what has been said, it appears that the desirability of spraying in bloom is a subject concerning which more information is needed in order to reach a decision which may be accepted by all

as being correct. Among the questions which should be investigated further are these :

1. May bees be poisoned by spraying open blossoms with Bordeaux mixture or other fungicides not combined with any recognized insect poison ?

2. Does spraying just before and just after blooming give as good protection against injurious insects and diseases as a corresponding number of treatments, one of which is made during the blooming season ?

3. At what stage of blooming has the process of fertilization progressed so far as to escape danger from the application of spray mixtures ?

4. What cultivated varieties may be expected to show improvement in fruit-production as a result of cross-pollination secured through the agency of insect visitors ?

The following conclusions must be accepted as now well established :

1. Bees may be poisoned by applications of arsenical poisons to open blossoms. The brood in the hive may likewise be poisoned.

3. The application of ordinary spray mixtures to open blossoms may stop the further development of the blossom, either through the corrosive action of the spray upon the pistil, or by preventing the germination of pollen on the stigmatic surface.

3. With apple and pear trees, having an abundance of blossoms, spraying once in the blooming season has thinned the fruit; spraying repeatedly, so as to hit the blossoms as they opened from day to day, has practically destroyed the crop of fruit.

4. The productiveness of many of the varieties of fruit which are more or less self-sterile, is increased by cross-pollination secured through the visits of insects to the blossoms.

S. A. BEACH.

(Continued next week.)

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

ANTS AND BEES.

Yes, Mr. Working, it's possible that ants may rob a queen-cell—may do worse, may grapple and destroy a queen. The number of species of ants are immense, and no two species alike; so it won't do to judge of the whole by the species we may happen to have known. Perchance the ants we have known never meddle with grain : but there are ants that will carry it off by the bushel. The ants most of us have known are comparatively harmless to bees : but there are ants so ferocious that bees, unless effectively protected, can not survive near them at all. Bees show anger when multitudes of little ants, too small to grapple with, get scattered among them in opening an ant-infested hive. And if ants abound, don't rub a bee-hive with anything that ants like, preparatory to hiving a swarm in it. Myriads of the little nuisance will go right in; and the bees, if I mistake not, will go out. I may be wrong, but my impression is that ants, bulk for bulk, are much stronger than bees, so that when big enough to be grappled with they are always too strong to be handled. Also, they are very hard and smooth, and afford no flat surfaces, so that getting a sting into one of them is a practical impossibility, likely. Page 680.

THE UNIVERSAL NEED OF AN EDUCATION.

Both parents and children the country over are still somewhat infected with the pestilent idea that there is no use of very much education unless one is going to be a teacher or something in the professional line. Thanks to Prof. Cook for his attack on that idea, page 682. *Specially* need a rich education in order to be comfortable while digging a ditch or breaking stone. I would also put in strongly : Education prolongs life. Multitudes of people, scarcely old yet, die of a mild, chronic wretchedness. Time and age have rendered the former routine of their lives impossible, and they have nothing to be interested in. Digestion cannot go on properly—we might almost say no other bodily function can go on properly—while the mind is in a state of wretchedness. The net result is that the body deteriorates and ages more in one year than it would need to do in two years; and soon something trifling carries you to the grave.

FEEDING BEES "GARDEN SASS."

And so Louisiana wants to set his bees to eating vegetables. As the extreme South has no wintering trouble except starvation, teaching the bees to eat "garden sass" would be in the nature of a panacea. He finds they eat somewhat at baked sweet potatoes. Let him feed 'em a big lot more—and then tell us instead of expecting us to tell him. Possibly the Californians can go him one better by feeding cooked sugar-beets. The Italians are already in the van by raising watermelon patches and feeding melons sliced on the ground. And Dr. Peiro—but then he's no "garden sass." Page 712.

TWO KINDS OF DRONES FROM ONE QUEEN.

Two kinds of drones from the same mother is not exactly evidence in favor of absolute purity, we grant. I think it is very common, however—so common that such a queen is not called impure. We say instead that the Italian (not far back) is a mixed race, anyhow. Page 716.

"ROAD-TRAP" FOR RABBITS.

Iowa comes to the front with bad roads that serve the useful purpose of rabbit-trap. Bunnies think they can get across to the other side and get awfully taken in. But—look out there! You'll get trapped, too, if you don't exercise care in getting the game from the trap. About the first report we've had in favor of a clay road at its prettiest. Page 717.

VETCH NOT A GOOD HONEY-PLANT.

Glad to hear from the man who raised vetches by the acre for years—I. Hiller, Washington State. It seems that (like cowpeas) bees work on the stems, not on the flowers—but no surplus from that, not even results enough to stimulate brood-rearing. The consensus of a number of reports seems to be that it is rare to see a bee on the flower of the vetch. Page 717.

CALIFORNIA VS. AUSTRALIA.

I am surprised at the Australian Bee-Bulletin for inquiring why California beats Australia in honey. Next they'll be asking why British Colonial government isn't so good as American State government. Page 718.

THOSE STONE SHADE-BOARDS.

Stone shade-boards! And they're pretty, and well liked, and only cost a few cents each. If Mr. A. E. Willcutt will cut us all a supply and arrange to send them by mail, we'll propose him three cheers. Pages 722 and 727.

SOME "LONG SMELLERS" IN OHIO.

Why, Mr. York, you ought to be willing to credit the bees with longer "smellers" than we'uns have. When Wood County oil and gas was in its prime we often smelled it unmistakably plain and strong 30 miles away. We are due north, so only an occasional turn of the soft south wind would bring it. On one or more occasions I waked up in the night and smelled it without going out-of-doors. As a matter of an opinion I am well persuaded that, on just such a moist and gentle south wind, and at morn, before the currents of the day have got started up, bees could smell a forest of basswood in bloom much more than 30 miles—many times over as far as they could afford to go to it. Page 724.

A MINIMUM OF UNFINISHED SECTIONS.

On page 727, Mr. Doolittle writes well on the minimum of unfinished sections. For years I have had very little trouble from that source. Wonder if it's locality, or strain, or kind of super. It is certainly not any fussing on my part to prevent it—and I *think* that locality plays on the wrong side. Strain and style remain; and I guess it's both combined. Good hybrids of long standing, and the (now unusual) two-story wide-frame. Four bait-sections all in one frame—two above and two below—and that frame put to the warm side of the middle. Always 40 or 48 sections put on at once. Notice : Let no beginner copy at wholesale till he asks his bees whether they like that sort of thing. Mine do. In a poor, lean field, which, nevertheless, has possibilities all the season long, it's just the lazy man's hallelujah arrangement—put it on in June and take it off in November.

BREEDING FROM THE BEST.

Dr. Miller's answer to South Carolina on page 729 is right. (Breed from both.) But still, if you have excellent bees, and are trying to make them better, the longer line of unbroken excellence you can get the more hopeful the last queen ought to be as a breeder. This on general principles—not drawn from any particular set of cases.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Clarifying Beeswax.

Some foundation I bought two years ago I have melted and sold as wax, not having need for more foundation; but this does not have the golden yellow appearance as wax which it had as foundation, and which the purchaser of the wax insists it must have, or cut the price heavily. It was strained through muslin when melted; it is not dirty, but has a very cloudy appearance. I have seen reference to the use of sulphuric acid for producing the golden yellow color, but I tried it and it made the color worse than before, and the wax was inclined to be meally and crumble easily.

IOWA.

ANSWER.—Try cooling it slowly. If you have not had much experience with beeswax it is possible that when you have it melted you allow it to cool very rapidly. The result is that the particles of impurity have not time to settle, and are frozen in wherever they happen to be, giving a more or less dirty and cloudy appearance. While the wax is very hot, there will be more or less movement among the particles, somewhat after the nature of boiling, and there will be no settling of impurities so long as it is in this condition. After it becomes cool enough so there is no movement akin to boiling among the particles, try to keep it in this liquid condition a long time, and by the time it begins to assume the solid condition the particles of impurity will have had time to settle.

A small quantity is harder to manage than a larger quantity. If the quantity is small, you can help matters by having water in the vessel with the wax, for a gallon of water with a gallon of wax will stay hot longer than the gallon of wax alone. Let the wax stand on the stove and let the fire die out in the evening, and in the morning you may find it clarified. Keeping the wax covered will keep it hot longer. If the quantity is small enough, a good place to put it is in the oven of a cook-stove just before the fire dies out in the evening. Put the stove-handle in the oven and shut the oven door. Hunting the stove-handle in the morning will help to keep you from forgetting to take out the wax.

Long-Tongued Bees—Mating in Confinement—Black or German Bees vs. Other Races.

1. Have the expectations of those who purchased queens of the "long-tongued" variety been fulfilled?

2. Has there been any advancement made "along the line" of having queens mated in confinement the past season? Hasn't some one been experimenting with the tent method?

3. Are not the black or German bees the hardiest we have? If not, why are they likely to supersede the other races?

MASSACHUSETTS.

ANSWERS.—1. I don't know. Very likely some are disappointed, and some well pleased. Some may have expected a great deal too much. Length of tongue alone will hardly warrant a perfect bee, although some good authorities seem to think that bees with tongues of unusual length are more likely to have unusual industry. Without knowing anything positively about it, I should suppose that a bee with a very long tongue *might* be lazier in some cases than its fellows with shorter tongues. Other things being equal, Mr. F. B. Simpson says he would prefer long tongues, and so should I. But we can hardly settle that long tongues are of great value just from a single case or two. Neither are we warranted in entering a general condemnation from a single case, as Mr. Doolittle seems to have done on page 775 (1901).

2. I do not know that there has been anything later than the tent method, so fully published some time ago.

3. I don't know. It is possible that blacks may be hardier, but that fact, if a fact, is not proven by the fact that Italians become mixed with black blood. That may come from the mere fact of numbers. I think it is not so hard to keep out black blood as it was some years ago, and it would probably be an exceedingly difficult thing for most bee-keepers nowadays to keep blacks pure.

Rearing Italian Drones and Queens Early.

I have two colonies with Italian queens from which I want to rear queens and drones in the spring. How early should I begin stimulating in order to rear them before the black bees of the neighborhood start breeding.

CALIFORNIA.

ANSWER.—It is not considered advisable to practice stimulative feeding before blacks start breeding at all. For bees wintering outdoors, whether black or yellow, begin breeding before the weather is warm enough for bees to fly, and it is not advisable to stimulate bees by feeding when they cannot fly out about every day. But as soon as weather comes so that bees take daily flights, then you may begin operations. If there are flowers from which they can gather freely, stimulative feeding will make little difference. But if there come days when the weather is good but pasturage lacking, then a little feeding will keep up brood-rearing.

See that the colony from which you wish to rear drones has abundance of stores, and make every effort to have it strong. Add frames of sealed brood from other colonies (brood from black colonies will be all right), so that the colony will be very strong, and put frames containing more or less drone-comb in the middle of the brood-nest, and you will have done about the right thing to have drones earlier than the average.

Killing Bees in Box-Hives and Extracting the Honey.

I have bought bees in 20 box-hives that I wish to kill and extract the honey from the combs. As I cannot use an extractor to get the honey, please tell me how to get it from the combs. Also, the best way to kill the bees.

INDIAN TERRITORY.

ANSWER.—Kill the bees either with sulphur or bisulphide of carbon. Without an extractor I know of no way to get the honey out of the combs without injury to the combs. If you do not care to preserve the combs, melt them (honey and all), allow the mass to cool, then remove the wax from the top. The probability is that the honey will not be of the best quality, for it does not take much heating to spoil it. Set the vessel containing the honey in another vessel containing water, and let the heat be so mild that it will be a long time melting, and the honey will be better than if rapidly melted with great heat.

Unusual Amount of Dead Bees.

I have 24 colonies outdoors, well packed, but there is an unusual amount of dead bees in front of the hives at this early date (Dec. 4.) What is the cause? and what may I expect as a result in the spring?

ILLINOIS.

ANSWER.—I don't know. It's an exceedingly hard thing to pass judgment at long range without particulars. It may be there is nothing wrong. Sometimes an unusual number of old bees, or a number of bees of unusual age, may make a larger showing of dead bees, in which case you may expect weaker colonies in the spring. The kind of weather may have something to do with it. If bees are confined to the hive a considerable time by very severe weather the appearance in front of the hive will be different from what it will be if the weather is warm enough to allow the dead bees to be partly cleaned out but not carried away. In any case, all you can do is to see that the bees are as well protected as possible, and hope for a favorable spring.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

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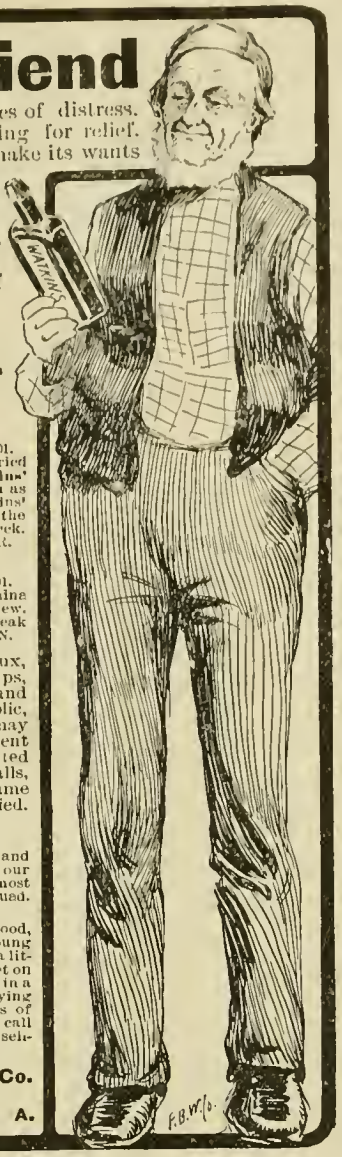

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OTTO PETER.

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I have used **Watkins' Vegetable Anodyne Liniment** for nine years and find it the best remedy for **colic in horses** I ever knew. I saved two horses with it that would have died. Cannot speak highly enough of it. HENRY CATTON.

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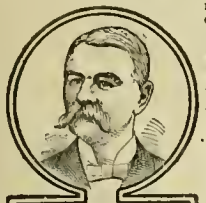

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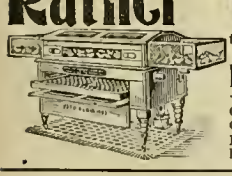

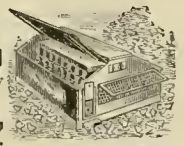

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BEEDOM BOILED DOWN

Sulphuric Acid to Cleanse Beeswax.

Asked as to the strength needed, Gleanings in Bee-Culture says:

Sometimes a 5-percent solution will do the work; then as strong as is required. That is to say, one part raw acid to 10 parts water; but if the wax is very dirty or black you may require to use as high as 25 percent. Use acid enough to get the yellow color. It is cheap; and when you have secured the proper color you can make your wax enough more valuable to more than pay the expense of the acid.

Increase of Honey-Yield.

Very often we see the question asked: "Is there any plant that will pay to grow for honey alone?" Whether such a plant exists I will not try to say, but I do wish to say that this question sounds a little foolish, for who would wish to cultivate a plant that furnished only nectar, while there are so many neetar-yielding ones, which furnish also excellent crops of fruit and grain? I am of the opinion that new plants for supplying nectar are not half so desirable as would be giving more attention to some of our present field-crops, and study to have them coming on at the proper time to fill up the vacancies between the main flows from the natural sources.

I also incline to the belief that longer-tongued bees are to be desired more than short-tubed clover, for the reason that though the short-tubed clover may be had, advantage over the one single plant is all we have; while by lengthening the bees' tongues till they can work on red clover, hundreds of plants equally as valuable as red clover would be brought within reach of the bees at a single step.—L. E. KERR, in the American Bee-Keeper.

Don't Be a Clam.

Don't be like a bee-keeper I once knew. He told me he had "invented" a new way of rendering combs; it was far ahead of any other way. I replied, "If it is any better than the solar wax-extractor then it *is* good." "Solar wax-extractor?" said he. "What is that?" I explained it to him. He appeared quite disgusted with himself. "Why," said he, "that is what I have, and I thought that no one else had ever seen such a wonderful thing, and I was going to take good care that he never did." He then took me to where his extractor was, and I tell you it was a crude affair. He did not subscribe to any bee-journal, and so was ignorant of the strides that were being made in apiculture; and when he found out a good thing he kept it to himself instead of telling it, and thus helping to brighten the lot of others. —Australian Bee-Keepers' Review.

The Bee in Law.

R. D. Fisher tells something about it in Gleanings in Bee-Culture. A decision of the New York Supreme Court is that—

"A man's finding bees in a tree standing upon another man's land gives him no right, either to the tree or bees; and a swarm of bees going from a hive, if they can be followed and known, are not lost to the owner, but may be reclaimed."

Mr. Fisher further says:

Where one discovers bees in a tree, obtains a license from the owner of the soil to take them, and thereupon marks the tree with his own initials, he gains no property till he takes possession; nor can he maintain tres-

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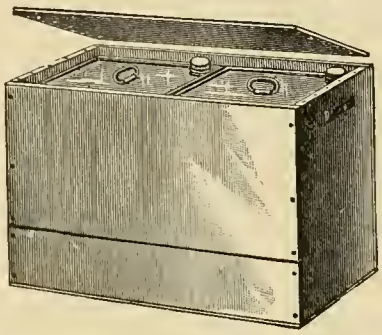

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pass against a third person who cuts the tree and takes possession of them on a subsequent license from the owner of the soil. The two licensees stand on an equal footing; and he who first takes possession becomes the owner. —Ferguson *vs.* Miller, 1 Cow. (New York), 243.

This case has been commented on adversely, and critics say it is bad law. The better law on this point is promulgated by the Vermont Supreme Court in Adams *vs.* Burton, 43 Vermont, 36, where it is held that one who has obtained a tacit consent from the owner of the soil to cut down a bee-tree thereon, and get the honey, has, while in the act of cutting down the tree, a superior right over a third person to whom the owner has given subsequent consent, but without revoking the former's authority. The court said: "These parties stand, as between themselves and as respects the legal principles applicable to the case, in precisely the same position as though neither had any authority from the owner of the tree, and both were trespassers upon his rights, or as though there were no individual owner of the tree. How, then, would the case stand? No principle is better settled than that a person in possession of property can maintain trespass against any one who interferes with such possession who can not show a better right or title."

With regard to swarms not wild, but issuing from colonies in the possession of a bee-keeper, Mr. Fisher says:

If bees temporarily escape from the hive of the owner, who keeps them in sight, and marks the tree into which they enter, and is otherwise able to identify them, they belong to him, and not to the owner of the soil. In such a case the property draws after it possession sufficient to enable the owner of the bees to maintain trespass and recover damages against a third person who fells the tree, destroys the bees, and takes the honey, notwithstanding such owner himself is liable to trespass for entering on the land of another for a similar purpose without authority. The right of ownership continues; and, though he can not pursue and take them without being liable to trespass, still this difficulty does not operate as an abandonment of the bees to their liberty by nature. Hence, the dictum that "*the owner of the soil* is entitled to the tree and all within it" is true only so far as repects an unreclaimed swarm.

A Kink in Queen-Rearing.

A little kink I got this year for rearing queens early in the season and late in the fall, when bees will do really good work in any other way, was this: Remove the old queen, then close the hive and gently blow smoke in at the entrance, pounding slightly on the hive till the bees are alarmed so they will fill themselves with honey. Now open and shake half or more of the bees into the nucleus-box I have explained about before. This box is so arranged that the bees have access to what is known as "queen-candy," such as is used in sending out queens in the mails. The box of bees is carried to the honey-house and left till the next day, at which time the colony is given a prepared lot of queen-cups, and the bees put back. They will "go for" cell-building "to beat the band." Twenty-four to 36 hours later put in a frame of honey on either side of the frame of cells, and take all the combs having brood in them from the hive, shaking and brushing off all the bees. This adds a new impetus to the matter, and brings forth queens of the very highest type of perfection, especially if the colony is fed in addition, so that much heat is kept up all the while, till the queens are ready to emerge.—G. M. DOOLITTLE, in Progressive Bee-Keeper.

Five-Banders Not Uniform.

I never yet have seen *all* the bees of so-called five-banded queens show uniformly five yellow bands. The best average for one queen is, perhaps, 50 percent with five bands; 25 percent with four, and the rest with three. As a rule, we do well to get 25 percent five-banded workers, and the rest three and four

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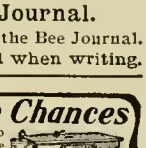

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banded, all from the same queen. I never yet have seen a uniform number of bands from any one queen of the extra-yellow stock. —Gleanings in Bee-Culture.

GENERAL ITEMS

Good Year for Bees.

This has been a good year here for bees and honey. Most of the honey has been light, very little dark honey in my crop. My bees averaged over 100 pounds to the colony, and I have disposed of almost all of it at a good price in the home market. M. BEST.

Lucas Co., Ohio, Dec. 16.

A California Report.

My crop from 126 colonies (in fair condition) was 22,514 pounds of extracted honey, with an increase of 10 colonies. I now have 203 colonies. I make my increase in the valley out of a low grade of honey. I keep down increase in the mountains by giving room and ventilation. My crop sold in the retail way at 5 to 7 cents a pound.

S. Q. CONKLE.

Orange Co., Calif., Dec. 3.

Report for 1901.

My bees did well the past season, yielding an average of about 70 pounds of comb honey per colony. H. G. WYKOFF.

Warren Co., Iowa, Dec. 12.

Results of the Past Season.

Last spring I had 30 colonies of bees, and I secured 1100 pounds of comb honey and 1200 pounds of extracted, besides increasing to 49 colonies. JOHN EENIGENBURG.

Cook Co., Ill., Dec. 15.

Not a Good Season for Bees.

I met with a bad accident a little over a year ago. My horse ran away and I broke my hip at the joint. I can not walk a step without crutches. The surgeon tells me that I can walk pretty well in another year, but I am afraid he is mistaken, as it has been over a year since it was broken, and I can not step on it yet. I have to hire a man to take care of my bees. I put 50 colonies, apparently in good order, into the cellar Dec. 4.

The past was not a very good season for honey here, being too dry. I had about 1300 pounds of nice honey, which sold at 12 cents per pound.

I like the American Bee Journal very much, and don't want to do without it as long as I keep bees. W. L. MITCHELL.

Whiteside Co., Ill., Dec. 14.

Bees Did Well.

My bees did well this year for this part of the country. I have about 110 colonies, and had a little over three tons of honey in one-pound sections. Two colonies produced a little over 200 pounds each. WM. M. DICK.

Ford Co., Ill., Dec. 14.

First Summer With Bees.

This is my first summer with bees; I got plenty of stings, but no honey. I also had some experience with transferring and robbing.

I have three colonies of bees, the third being very late, and reared a good deal of brood in September and October. I thought they must be fed, so I made sugar syrup and fed it in a Boardman feeder, placing the feeder in the center of the entrance. This left space on both sides of the feeder, and it wasn't very long before the other two colonies were robbing the feeder, and the hive, too. Although

Snoring Stopped Instantly, prevented and cause permanently removed by a neat and simple device which affords no inconvenience to user. **Failure is Impossible.** It also prevents sleeping with **open mouth**, which habit ruins so many throats and vocal cords and in many cases brings on diseases of nose, throat and lungs. **NO MEDICINE.** Correspondence confidential in plain sealed envelope. Address,

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World's Standard Hatcher.

Used on 26 Gov. Experiment Stations, in U. S., Canada, Australia and New Zealand; also by America's leading poultrymen and thousands of others. Guaranteed to give satisfaction or price refunded. The **Original and Only Genuine Non-Moisture Incubator,**

fully covered by patent. Gold Medal and highest award at Pan-American, October, 1901. Illustrated 32-page circular free. Complete Catalogue, 196 pages, 8x11 inches, mailed for 10 cents. Ask nearest office for book No. 50.

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Best in the World.

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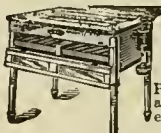
R. H. SHUMWAY, Rockford, Illinois.

Please mention Bee Journal when writing.



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Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.

GEO. H. STAHL, Quincy, Ill.

45A26t Mention the American Bee Journal.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,

330 Market Street, - SAN FRANCISCO, CAL

Please mention Bee Journal when writing Advertisers.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[This Cut is the Full Size of the Knife.]

Your Name on the Knife.—When orderlug, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your Pocket-Knife will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

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I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

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at prices that are the lowest. Catalog giving

Full Line of Supplies,

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GUS. DITTMER, Augusta, Wis.

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Manufacturers' prices. Complete stock. Send for our catalog.

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S.W. Cor. Front & Walnut Sts. CINCINNATI, O.

The Handsomest Calendar

of the season (in ten colors) six beautiful heads (on six sheets, 10x12 inches), reproductions of paintings by Moran, issued by General Passenger Department, Chicago, Milwaukee & St. Paul Railway, will be sent on receipt of twenty-five cents. Address, F. A. Miller, General Passenger Agent, Chicago. 51A3t

A Cool Million of

Snowy Wisconsin Sections

AND 1,000 BEE-HIVES

ready for shipment. Send for circular.

R. H. SCHMIDT & CO.,
1A6t SHEBOYGAN, WIS.

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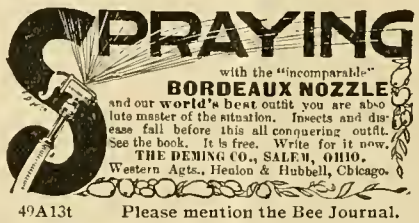
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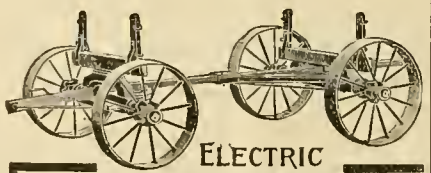
and our world's best outfit you are absolute master of the situation. Insects and disease fall before this all conquering outfit. See the book. It is free. Write for it now.
THE DEMING CO., SALEM, OHIO.
Western Agts., Henion & Hubbell, Chicago.

49A13t Please mention the Bee Journal.

A New Game.—A new guessing game is to show some illustration, or give a name either of them made familiar through advertising, and guess who uses the illustration, or what line of goods is handled by the advertiser named. If one were to mention the name Shumway, almost every one would say at once, "Seeds," so thoroughly have the two been advertised for more than 30 years. Mr. Shumway's announcement appears elsewhere in this issue, and is headed, "Good Seeds Cheap." It contains a special offer, and mentions his new catalog. Write for it to-day. Address, R. H. Shumway, Rockford, Ill., and please mention this paper.



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Handy Farm Wagons

make the work easier for both the man and team. The tires being wide they do not cut into the ground; the labor of loading is reduced many times, because of the short lift. They are equipped with our famous Electric Steel Wheels, either straight or stagger spokes. Wheels any height from 24 to 60 inches. White hickory axles, steel bounds. Guaranteed to carry 4000 lbs. Why not get started right by putting in one of these wagons. We make our steel wheels to fit any wagon. Write for the catalog. It is free.

ELECTRIC WHEEL CO., BOX 16, QUINCY, ILL.

Please mention Bee Journal when writing.

I contracted the hive-entrance so that only one bee could enter at a time, there was no fighting, and the hive was soon empty.

I fed again, and the robbery was repeated, so I piled hay in front of the hive and fed under this; but the bees crawled right into the hay. I then poured several pails of water over the hay, and the trouble ceased.

After this I fed $2.00 worth of sugar. The two colonies had their combs full. The third colony got rather slow about carrying it in, so I think they have enough for winter. I fed this sugar in the open.

I have received the Emerson binder, and must say that it is the best way to get the full worth of the Journal; easy to refer back and find articles which you need just now and don't quite remember. I have a full sheet of lined paper in the back of my binder, in which I keep a memorandum of articles that I will need later on. Theodore Fluegge.

Dupage Co., Ill., Dec. 16.

Honey-Locust.

I enclose some leaves and a blossom for naming. The bark is very smooth, and the tree has a fine foliage.

Frogs and toads can be found in creeks, springs, old wells, and in crab-holes near marshes. They sometimes freeze, which makes them blind, or partly so. A fish may be frozen as hard as a stick, but will swim after being in water awhile, but the eyes are damaged.

I am much pleased with the American Bee Journal. F. Durant.

Winnebago Co., Wis., Dec. 12.

[The specimen sent for identification is the honey-locust — Gleditschia triacanthos — and belongs to the Leguminosæ family. Prof. Cook, in the Bee-Keepers' Guide, page 363, calls attention to the honey-locust as an excellent nectar-producing plant, along with others of the same family. These plants blossom early in the year, in May and June, and the bees produce a fair quality of honey from them.—C. L. Walton.]

Bees Flying—No Snow.

The ground is bare and no frost in it. The last few days the temperature has stood at 55 and 60 degrees, and my bees are flying. We have not had snow enough yet to track a cat. To be sure, all through November it was very cold. For the last two years we have not had snow enough to go sleighing.

Henry M. Bartlett.

Plymouth Co., Mass., Dec. 14.

Enjoys Her Bees.

I enjoy the pictures of the apiaries, and will try to send one of my apiary. My bees are in good order, and well packed for winter. I have them on the summer stands with blankets over the brood-combs instead of the gum-cloth, and bags of open canvas filled with dry leaves on the blankets. I have never lost a colony from cold. My bees are a great pleasure to me. Mrs. E. G. Bradford.

Newcastle Co., Dela., Dec. 10.

Early Winter is Warm.

The weather is quite warm to-day, and bees are flying. If the winter continues this way there will be no loss of bees from freezing, that's positive, but when we have a warm, open winter we also have a poor season for honey the following summer. W. W. McNeal.

Scioto Co., Ohio, Dec. 13.

Did Well With Bees.

I have done remarkably well with my bees this year, and am satisfied with the results of the season, 40 pounds to the colony being my average. I have sold all I had to spare right here in my home market for 15 cents per section. I do not produce any other kind of honey. When my customers buy the sections

direct from the hives, they know they are getting pure honey, and no mistake.

I would not be without the American Bee Journal for three times its cost. I always hail with delight its weekly visits, and generally read it through from beginning to end before I stop, and then re-read it in a day or two. R. P. DAVIS.

Lamar Co., Tex., Dec. 9.

Not a Glowing Report.

My report is not very glowing this season. From 32 colonies I got 750 pounds of section honey and 45 swarms, which makes 77 colonies to put into the bee-cellar. I am hoping for a better season next year. There was a great amount of bloom but no honey in it.

FRANK E. KNAPP.

Wadena Co., Minn., Nov. 31.

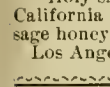
A California Interview.

I saw a keeper of bees from the hills the other day who was much discouraged at the low price of honey. He can't afford to keep posted by taking a bee-paper. Don't be discouraged yet, fellow bee-keeper; wait for the New York bee-disease. "Why, what, what is that?" Black brood, of course, "Never heard of it." Why, it spreads faster than foul brood. Foul-brood germs are mostly carried in honey, wax, hive-parts, etc., while black-brood germs are supposed to go miles in the very nectar-yielding flowers.

"Holy smoke; if it ever gets out here in California it will ruin us. Raise the price of sage honey, sure pop." E. ARCHIBALD.

Los Angeles Co., Calif., Dec. 9.

WHAT OUR PATRONS SAY



Get 50 chicks from 50 eggs often. HATCH EVERY GOOD EGG EVERY TIME. Never gets out of order. Needs no attention at night. Regulates perfectly. Best on earth. Catalogue BUCKEYE INCUBATOR CO., No. 53, 2c. Springfield, Ohio.

50 Egg Size $5

30 DAYS TRIAL

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A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book published to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipped, or his library complete, without THE BEE-KEEPERS' GUIDE.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let everybody try for it. Will YOU have one?

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

CONVENTION NOTICES.

Minnesota. The Southern Minnesota Bee-Keepers' Association will hold its next annual convention in the County Commissioners' room at the Court House in Winona, Jan. 21 and 22. A good program has been arranged, and a large attendance is expected. All are invited.

E. B. BUFFMAN.

Wisconsin —The Wisconsin State Bee-Keepers' Association will hold its annual convention in the State Capitol, at Madison, Feb. 5 and 6, 1902. This promises to be a large convention. All are invited to attend. There will be excursion rates of 1⅓ fare for the round-trip, good for all of the first week in February.

N. E. FRANCE, Pres. ADA L. PICKARD, Sec.

California. —The California State Bee-Keepers' Association will hold its annual convention in the Chamber of Commerce, Los Angeles, Jan. 15 and 16, 1902. We will try to have a good program. Come and exchange your bright ideas with your neighbors, and get some of the moss rubbed off your back. J. F. MCINTYRE, Sec.

G. S. STUBBLEFIELD, Pres.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.20	$2.50	$4.50
Sweet Clover (yellow)	.90	1.70	4.00	7.50
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White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents if wanted by mail.

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State price, kind and quantity.
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Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
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Comb Honey and Beeswax. State price delivered in Cincinnati.
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We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.
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regarding the oldest and most improved and original Bingham Bee-Smoker
FOR 23 YEARS THE BEST ON EARTH.
25Atf T. F. BINGHAM, Farwell, Mich.
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"Snor-o-dont" is a new device to prevent people (not poultry) from sleeping with open mouths. Sleeping with open mouth is the *first* cause of a large percentage of all nose, throat and lung troubles. It can be prevented only by some mechanical agency. Snor-o-dont does it completely, and stops all snoring instantly. Read the advertisement.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 21.—The honey market is of a slow nature with little change in price of any of the grades. Choice grades of white comb honey, 14½@15c; good to No. 1, 13½@14c; light ambers, 12½@13c; dark grades, including buckwheat, 10@12c. Extracted, white, 5½@7c; amber, 5¼@5¼c; dark, 5@5¼c; the scale of prices varying according to flavor, body and package. Beeswax steady at 28c. R. A. BURNETT & CO.

NEW YORK, Dec. 19.—Comb honey continues to be in good demand, and while the market is not overstocked, arrivals of white honey are sufficiently large to meet the demand, while buckwheat is rather scarce. We quote: Fancy white, 15c; No. 1, 14c; No. 2, 12@13c; and buckwheat, from 10@12c. Extracted remains dull and inactive with plenty of supply of all kinds. In order to move round lots, it is even necessary to shade the quotations, which are: White, 6@6½c; amber, 5½@6c; dark, 5@5½c; Southern, 55@60c gallon, according to quality. Beeswax firm at 28c. HILDRETH & SEGELKEN.

CINCINNATI, Dec. 20.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

ALBANY, N. Y., Dec. 20.—Honey in good demand now, as this is the most satisfactory time to sell. Grocerymen are stocking up and will buy lines, when late they only buy enough to piece out. Fancy white comb, 15@16c; mixed, 14@15c; buckwheat, 12@13c. Extracted, white, 6½@7½c; mixed, 6@6½c. H. R. WRIGHT.

OMAHA, Dec. 20.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

BOSTON, Dec. 20.—The demand for honey is easing up, somewhat due in part to the holiday season at which time it is much neglected.

Our market at the present time runs 16c for strictly fancy in cartons; No. 1, 14@15c; No. 2, 12½@13c. Extracted, light amber, 7½@8½c; amber, 7c. BLAKE, SCOTT & LEE.

DES MOINES, Dec. 20.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Dec. 20.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Dec. 18.— White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4¼@5c; amber, 4@—.

The steamer American, sailing from this port on the 14th inst., for New York, carried as part cargo 726 cases honey, including 200 cases taken on at Seattle. Spot stocks are not heavy. Values are steady. The extreme southern part of the State has long been noted for its fine honey, but there is some extracted now on market from Monterey county which will compare favorably with the choicest honey ever produced in this or any other portion of the globe.

KANSAS CITY, Dec. 20.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

PEYCKE BROS.

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We have a Large Stock on hand and can ship promptly.

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THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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ROOT'S GOODS AT ROOT'S PRICES

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

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A New Bee-Keeper's Song—

"Buckwheat Cakes and Honey"

Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

GEORGE W. YORK & CO.
144 & 146 Erie St., - CHICAGO, ILL.

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Why does it sell so well? ✻✻

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JANUARY 9, 1902.

FORTY-SECOND YEAR No. 2.

WEEKLY

ROOF-APIARY OF A. E. RITSCHER, OF MORGAN CO., ILL.
(See page 18.)

THE AMERICAN BEE JOURNAL.

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

MR. WM. RUSSELL, writing us Dec. 30, said:

"Perhaps the most important event of the late convention of the Minnesota Bee-Keepers' Association was the raising of the dues to one dollar per year, and thus being able to join the National Bee-Keepers' Association in a body. If a few more of the States could see their way to take the same step, the 1000 membership mark would soon be passed."

A RUSSIAN APIARY will be found illustrated on page 26. When sending the photograph, Mr. Alexander Fourier had this to say:

"We have read the American Bee Journal four years, and we are very glad to send you the picture of one of our apiaries, which are situated in the Ural Mountains, near the town of Oufa. During the winter of 1899-00 we lost 500 colonies on account of bad honey-dew. In the spring of 1900 we bought 160 colonies of bees in Caucasus, in native basket hives, and moved them 2800 miles.

The photograph shows our home apiary, taken after transferring the Caucasus bees into movable-frame Dadant-Quinby hives.

We have all the best Russian bee-books, latest edition of "A B C of Bee-Culture;" "The Honey-Bee," by Benton; Dandant's "Langstroth on the Honey-Bee;" Cook's "Bee-Keepers' Guide;" Doolittle's "Scientific Queen-Rearing;" and, besides, all the Russian bee-papers. We also have a comb foundation mill, a 6-frame Cowan improved honey-extractor, etc.

Yours truly,
ALEXANDER FOURIER."

MR. R. C. AIKIN seems to have furnished an interesting acrobatic feat (or two feet) for the enjoyment of the late convention of bee-keepers at Denver. The Bee-Keepers' Review describes it as follows:

"The president was tilting backward and forward in his tilting arm-chair, when he put a little too much enthusiasm into his backward tilt. A horrified look on his face, and frantic efforts to recover his equilibrium were of no avail—over he went, with arms and legs sticking in the air. He rose to his feet laughing, and the audience laughed with him, and all passed off as smoothly as though arranged according to program."

MR. A. E. RITSCHER, of Morgan Co., Ill., whose roof-apiary is represented in the picture on the first page, wrote us as follows when sending the photograph:

In March, 1898, I purchased two colonies of bees at $5.00 per colony. I thought the price high, but I received such strong colonies that they gave two swarms and over 100 pounds of surplus honey the first year, proving much cheaper than common bees at $1.00 per colony.

I placed the bees on the roof of my store-building, on the corner of Main street and the Public Square, causing some comment, but my bees attend strictly to business, flying out over the tree-tops, and are seldom seen on the street.

The first swarm caused much merriment. When the alarm was given, business was suspended for a time, the street filled up with people, the barber shop brought out their mirrors, and bells, pans, water and sand were used, until the poor bees, nearly scared to death, settled on a low branch of a large tree, right in front of one of our leading dry goods stores. Advice and suggestions were now freely given, fun and jokes were the order, and laughter ruled the street.

A hive was soon brought and put on a sheet near the tree, and the twig cut off and placed in front of the hive. The crowd—which now was as large as at a village fire—formed a circle, and watched the bees crawl into the hive. When I returned to town (being absent at the time) the swarm was put on the roof by "the boys."

I use the 10-frame hives, with Danzenbaker supers for comb honey, ventilated covers or hoods covered with grey Niagara water-proof paper, painted with Alden Spear's Asbestine Cold-Water Paint.

I winter the bees on the summer stands, and they have done well at 22 degrees below zero (Feb. 9, 1899), and 112 degrees in the shade last summer.

I have bee-books, and get much information from the American Bee Journal, but I still have much to learn.

A. E. RITSCHER.

Mr. Ritscher also wrote that the picture was taken by "the devil" in a printing-office which is located on the floor just below the bees. So there is one "devil" that can find "a hot place" any time he wants to get up on the roof above him, and "stir up the bees."

W. L. CHAMBERS, of Arizona, is called the youngest big bee-keeper in the world, by Editor Root. Frail of physique, and poor in health, he had to be taken out of school early, and not being able to do the ordinary hard work on his father's fruit-ranch, he took to bees. At the age of 15 he started with 7 colonies, which he bought and paid for out of his own savings in chicken money. Foul brood came nearly cleaning out his apiary the first season, but he weathered it through, increased only so fast as the profits from the bees would provide the means for further enlargement, and now, at the age of 20, he is the possessor of 500 colonies.

The Bee-Keeper's Guide;

Or, Manual of the Apiary,

—BY—

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JANUARY 9, 1902. No. 2.

Editorial.

Foul Brood Laws in Every State should be demanded by bee-keepers. It is not necessary to wait until the disease has a strong foothold. It is much better to keep the disease out than to try to eradicate it after it has begun its work. Most commendable work has been done by the inspectors of foul brood in Canada and some of the States where foul brood had taken up a residence. Does any one doubt that it would have been economy to have been at the same expense and labor *before* rather than after the establishment of the disease?

Improvement of Stock.—In a careful consideration of this subject in Revue Internationale, it is said that when we have found a queen of exceptional qualities, every care must be taken to give the queen and her progeny the best chance possible for health and vigor, the chief care being to see that there is never any scarcity of food in the shape of honey of good quality. In the opinion of the French writer sugar syrup can not replace honey, and if sugar syrup alone be consumed the eggs will be of inferior quality, and a mediocre generation of workers will result. So it is unwise economy to take away from a colony too much of its honey.

No Set Program at bee-conventions seems to be getting to be the rule rather than the exception. Good thing. A written paper, no matter how good, may be spoiled in the reading, and in general will be enjoyed just as well when read at home in a bee-paper. But the bright thoughts that are brought out in a live discussion are the things that make it worth while to go to a bee-convention. If, however, the time is to be taken up entirely with no set program, depending upon the question-box for subjects, it is of prime importance that there be a wide-awake presiding officer, or the discussions will sometimes run away with him, taking up much time with matters of little importance.

Inspector Rankin's Report.—This report, as published on page 823 (1901), shows not only that much work has been done by Mr. Rankin in Michigan, but that still more work is needed. It is a somewhat alarming statement that more than half the apiaries visited by the inspector were invaded by foul brood. The case does not look so bad when it is remembered that he would be likely to visit only those apiaries that were suspected. Still, the fact remains that he found 119 infected apiaries in the State, and out of 3286 colonies inspected, he found the number of diseased colonies to be about one in eight. How many infected colonies in the State were not found at all by Mr. Rankin can be only a matter of surmise, but it is not hard to believe that the number may be considerable after reading the inspector's statement that many bee-keepers whose apiaries are troubled by the disease seemed to have no idea that they had any serious trouble on their hands; and it is quite possible that in many cases the owners of diseased colonies do not suspect the presence of the scourge.

Bees Supporting a Hired Hand.—As showing what a colony of bees may do in exceptional cases, the following from G. M. Doolittle, in Gleanings in Bee-Culture, is interesting:

I wish to tell you about something which pleased me during 1872. I bought an extractor, and, being determined to give the bees the care they needed, and knowing that the time the bees needed the most attention came in haying-time, I hired a man to take my place in the hay-field. It so happened that he commenced work on the day basswood commenced to bloom. Previously I had hived a prime swarm, and concluded to devote them to extracted honey. The man worked 16 days at $1.75 a day, and I extracted honey enough from that colony during those 16 days to pay the man for his work. I tell you this to show that, when properly managed, in a fairly good season, one swarm is equivalent to a man at work in the hay-field, and so it will not pay to neglect a whole apiary to go into the field to work, as many would-be bee-keepers so generally do, and afterward growl about the bees not paying them.

Selling by Case or by Weight.—The Rocky Mountain Bee Journal thinks injustice was done Colorado bee-keepers in a late number of this journal by the Editor and R. A. Burnett & Co., in the strictures that were made against selling honey by the case. There is certainly no desire to do any injustice to the good bee-keepers of Colorado, whom this journal holds in high esteem. So far as they are concerned, the matter is put in a very different light by a full understanding of the case, and in order to that end it is a pleasure to give here in full the following from the Rocky Mountain Bee Journal:

The Colorado State Bee-Keepers' Association has adopted the following standard of weights per case in the grading and classification of comb honey:

"No. 1.—Cases of separatored honey to average 21 pounds net per case of 24 sections, with a minimum weight of not less than 20 pounds for any single case; cases of half-separatored honey to average not less than $21\frac{3}{4}$ pounds net per case of 24 sections, with a minimum weight of $20\frac{3}{4}$ pounds for any single case; cases of unseparatored honey to average not less than $22\frac{1}{2}$ pounds net per case of 24 sections, with a minimum weight of $21\frac{1}{2}$ pounds for any single case."

"No. 2.—Cases of separatored honey to average not less than 18 pounds net per case of 24 sections; cases of half-separatored honey to average not less than 19 pounds net per case of 24 sections; cases of unseparatored honey to average not less than 20 pounds per case of 24 sections."

Thus it will be seen that the objections of the Burnett Co., as to short weight, fall flat. The lightest weight of sections admissible in the No. 1 grade is 14 ounces, so we fail to see where the 9 and 12 ounce sections can get in. Under our rules light-weights are sold as culls, and every bee-keeper is anxious to avoid producing them.

The common practice all over the country in retailing comb honey is to sell by the section, and not by weight. The retailer likes to buy by the pound, but invariably sells by the section, and is thus enabled to make more than a legitimate profit, and it comes out of the producer. We fail to see the injustice of compelling the retailer to purchase by the piece, so long as he sells by the piece, especially when the weights are guaranteed, as in the case of buying of members of the Colorado Association.

As the language stands, the remarks of the American Bee Journal plainly infer the charge that the object in selling by the case is a dishonest one, but we are charitable enough to believe that such a meaning was not intended. There are dishonest people in every calling in life, and those among bee-keepers who desire to be dishonest will find ways to accomplish their trickery whether they sell by the case or weight.

Selling by the case is growing in favor, and where all parties are disposed to be fair and honest there has been no trouble nor cause of complaint. It is a matter that rests largely upon individual honor and self-respect, and the same is true throughout all the business world.

Under the Colorado rules we grade by color, finish and weight, and when a case of No. 1 or No. 2 is offered, we know, if it is graded correctly, how it looks and the least it can weigh. We base prices upon the minimum weight only. The advantage, if any, accrues to the buyer, and the slight loss to the producer, if any, is much less than the cost of weighing.

The Burnett Co. is one of the few thoroughly honest and reliable commission-houses in the great inland metropolis, and their opinions are entitled to serious consideration, but the system of selling comb honey by the case is too well grounded in Colorado to be discarded at their simple behest.

The American Bee Journal hereby apologizes to the Colorado bee-keepers for even the *seeming* of injustice, at the same time disclaiming any unkind intent. Like many another case, the misunderstanding comes from a difference in the use of terms, or perhaps to be more exact in this case, because the same term may be used to mean two different things. What does selling "by the case,"

"by the piece," mean? There was a little quiet amusement in the late Chicago convention when, after Mr. R. A. Burnett had said he never sold honey "by the case," a member "called him down" by saying Mr. Burnett had sold thousands of cases of honey "by the case." It was true that all the honey was weighed, and so it was sold by weight, but in a certain sense it was also sold "by the case," for it was not sold "by the section," nor "by the car-load," but "by the case."

When the grocer retails section honey, he either sells it "by weight" or "by the piece." When retailed "by weight," it is universally understood that each section is weighed; and as universally it is understood that when sold "by the piece" there is no weighing, and the weight is not considered. As "by the piece" has meant without regard to weight, so "by the case" has had the same meaning. But Colorado bee-keepers now have a new meaning for "by the case," a meaning which they have a right to use, only it needs to be explained to the uninitiated, for, according to their rules, weight is distinctly considered, and they are practically *selling by weight*. If any one will turn to page 759 (1901), he will see that what is said there had no reference to selling by Colorado rules, which distinctly have reference to weight, for the thing specially mentioned on page 759 is, "so much per case of 24 sections, without refereuce to the actual weight of honey contained in the case." Selling by the case, with a certainty of 21 pounds for every case, is a very different thing.

If it is true that by the Colorado system there may be a gain to the buyer, with no real loss to the seller, it is hard to find fault with it.

But why not buy and sell by actual weight? There should be a uniform method, and "by the case" can hardly become the general method.

Cold-Water Paint for Hives.—L. T. Chambers writes in the Australian Bee-Bulletin:

For years I have been trying and looking for experiments in the way of discovering a paint which will be inexpensive and yet durable, and I am happy to say that at last I have found what is needed. Cold-water paint needs simply mixing with water in place of oil, saving the cost of the oil. The powder of which it is composed is no dearer than white-lead, but will spread much further, and will adhere to any surface with more tenacity than oil paint, being unaffected by weather, and at the same time it is waterproof as well as fire-proof.

Nothing is said as to the composition of this powder, and it remains to be seen what others may think of its value.

Does a Queen Carry Foul Brood?—Le Rucher Belge quotes a writer in the American Bee Journal, who says it is the workers and never the queen which carry foul brood from an infected to a healthy colony. Editor Wathelet insists that a queen may carry the spores to a healthy colony, and warns against putting into such colony a queen from one that is diseased.

A Knotty Problem is what the American Bee-Keeper calls the problem of nominating and electing officers of the National Association. About right.

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 9.)

Pres. Watrous then called upon Prof. H. W. Collingwood, editor of the Rural New-Yorker, who delivered an address on,

The Pomologist and the Fruit-Grower.

I am not a bee-keeper, although I help keep my neighbors' bees. I don't pretend to be a pomologist. I'm a plain fruit-grower, far enough along to realize that, with all his proud dominion over the lower forces of nature, man cannot produce the finest and most perfect fruits without the help of his friend, the bee. That, I believe, will be the conclusion of every fruit-grower who will really study the question.

The relation between the fruit-grower and the bee itself are physical, mental and moral. Interfere with a bees' notion of duty and right, and she at once administers a stinging rebuke to those faint-hearted humans who permit others to interfere with their homes and privileges. Perhaps some of you have heard of the young man who said he called his sweetheart "honey," and in 24 hours she broke out in an attack of the hives.

The mental relations appear when a thoughtful man studies the wonderful life and habits of the bee, and the social order that prevails inside the hive. That man must admit that even the civilization that has been inspired by human wisdom falls short of this in some essentials of justice and equity. The moral aspect appears when, in the latter part of summer, the bees swarm to your fruits, and you try to follow out the principle of the Golden Rule in your relations with the bee-keeper. You learn then how much easier it is to be a bear than it is to forbear. One must learn to use the memory of services rendered as oil for the rusty machinery of patience.

There are two worthy citizens who upset the theories of the scientific men—Jack Frost and Mr. Honey-Bee. Ice and honey are two crops which remove no fertility from the soil. A man might cut ice on his neighbor's pond for years, and make a fortune by doing so, yet all his work would "cut no ice" in the great American game of robbing the soil. The pond will not be injured in the least. In like manner my neighbors' bees may take a ton of honey from my fruit-trees, and it may sell at a good price, yet my farm has not lost five cents' worth of plant food, nor would I have been a cent better off if the bees had not taken an ounce of the nectar, but had simply acted as dry-nurses to my baby fruits without pay or reward. Both frost and bee bring unnumbered blessings to man, yet most of us will spend more time growling at some little injury which they do as they pass on, than we will in praise and thankfulness for all the benefits they heap upon us. I have known fruit-growers and pomologists who, when they found the bee sucking some cracked and worthless old fruit, forgot that the bee did more than they in the making of these fruits. If they were in the bee's place they would probably demand 75 percent of the finest fruit in the orchard as payment for their labor. Such folks make me think of the housekeeper who found fault with the minister. The good man came into the house of sickness with a message of divine hope and love and faith. He cheered the hearts of all; and yet when he went away the housekeeper found fault with him because he forgot to wipe his feet on the door mat, and tracked some mud on her kitchen floor. What a world this would be if we could learn to judge others, not by their little weaknesses, but by their great acts of loving service!

If one would look for the ideal relations between the fruit-grower and the bee-keeper he would find them inside the modern cucumber-house. The cucumber is "cool" way down to the courtship of its flowers. Matrimonial agents are required, and formerly these were men who went about with long brushes dusting the pollen upon these bashful flowers. It has been found that bees will do this better than the men, and most cucumber-houses now have their colonies of bees. Inside the glass house the grower has no desire to throw stones at the bee-keeper, because they both wear the same clothes; and the man who can not get on harmoniously with himself has no business out of jail. I say that, well knowing that some of the darkest life tragedies in the world's history have been caused by the evil side of a man's nature obtaining mastery for the moment over the good. In the orchard or fruit-farm the conditions are very different. Here a man may feed the bees which belong to somebody else, and he does not, like the cucumber-grower, see that the bees actually save him the wages of a workman, which would be nearly as necessary without the bees. Most men do not, I think, fully understand who the bee is and what he really does. Let us state his case fairly. I understand, of course, that common facts about the bee must be an old story to those who are here. The greatest value of such a meeting is the fact that one may talk over your heads or through you to the thousands who may never join either society, and yet who will profit by your work.

THE BEE AS A CITIZEN.

Man has never tamed the bee as he has the horse or dog or ox. These animals have surrendered their freedom, and tamely submit to man's dictation, changing even their shape and vital functions at his will. Turn them loose, and after a few hours of clumsy freedom they will come back and beg to be taken under shelter into slavery. Even man himself loses the savage independence and love of liberty he knew when free as the hills, and at the behest of civilization puts his neck under the heel of those who are morally his inferior. Not so the bee. He has never surrendered the freedom that goes with wild things and wild life. Man coaxes and partly directs him, but he is still untamed, and still retains the courage and fearlessness which civilization takes from the heart of most animals, including man. Left to itself, the swarm of bees will not come begging shelter from man, but gladly and fearlessly fly off into the wilderness, to live as it ancestors lived.

The bee starts with the scope and purpose of its life-work clear. It does not need to go to school. From the first gleam of consciousness the bee knows that it is born to toil, without reward, without hope of posterity. Instinct, heredity, spirit, call it what you will, drives the bee on to labor without ceasing, without holidays or hours of lazy ease, and for what? Simply for the future—that dim, mysterious time for which he is ever prompted to provide. I said that the mental side of this question will present itself to any thoughtful man. Truly, the lesson of the hive goes deep into the human heart and soul.

THE BEE AS A WORKER.

As a boy I was brought up on the "busy bee" theory. The old man who considered himself responsible for my industrial training gave me to understand that the bee is a tireless worker who toils for the love of it and never quits. He wasn't trying to get me interested in the study of natural history—he was trying to get me to realize that some one loved to work, and *he* knew that *he* didn't. I am sorry to break down this ideal of childhood, for I have searched hard to find something that has no blood of the shirk in its veins. I can't tell my children the old story, for they will soon know that most bees in New Jersey appear to start work at 7:30 to 8 a.m., and knock off at 4 p.m. On wet days they usually quit entirely. This is much like the average hired man, who will take advantage of a light sprinkle to come in and sweep up the barn floor. The bee works on Sunday, while the hired man rides his bicycle. When the bee does start he keeps at his work, while the hired man stops to look at the clock.

When you tear down the childish ideal of the busy bee, and find that it has some of the bad habits of mortals, you do not destroy the whole picture. That would be true with some men; but with the bee it only brings to view a higher ideal than ever. The bee does a fair day's work, and then goes home and puts in a part of the night. A man, after doing his work in the field, will hardly help his wife wash the dishes after supper, but the bee works like a slave through the darkness at the wonderful task of manufacturing honey. The short day of hard and consistent work furnishes enough for the hive-workers. If all men worked as the bee does, with as fair and just a division of labor, what a world we should have. The short, hopeful day's work would be sufficient if the idle and the rich would cease to live on the earnings of the overworked poor. The society in the hive permits but few drones, and kills them off as the winter comes on, while human society increases the number. Thus, as we grow older, we find that the bee is not the poor, aimless drudge we thought him, but rather one who lets his wits save his wings.

THE BEE'S GOOD WORK.

We can easily forgive the bee his short working days when we consider the good he does. There is no question about the debt fruit-growers owe him. People talk about the wind and other insects in fertilizing our flowers; but I am confident that any man who will really take the time and pains to investigate for himself will see that the bee is nearly the whole story. I have seen the certain results of his good work in a neighbor's orchard. Those bees "broke the trees" down just as truly as though they had climbed on the trees by the million and pulled at them. The appearance of those trees after a few years of bee-keeping would have convinced any fair-minded man that our little buzzing friends are true partners of the fruit-grower.

It has been said that the bee does not do this work because he wants to. He is pictured as a greedy, selfish fellow, born into the world with a single idea, who dusts his jacket with pollen, and does his work as dry-nurse simply as an incident. Nature puts the brushes on his legs and stomach, and he cannot help using them. Here, again, he is not unlike men. Most of us fight and slave and toil for our own selfish ends. We try to shake the good intentions out of our jacket, and a large proportion of the good we do in this world is done as a side incident, as we press on to accomplish something for ourselves. To my mind this is only another illustration of the wise and beautiful provision of Nature to lead the bee on from flower to flower with some motive of personal gain, and in this way compel him to do his work for pomology. I would that humans who toil, even past the allotted years of man's life, after wealth and power, might as surely leave behind them perfect fruits for the toil of others. The stout legs of the bee, as he crawls from flower to flower, kick life into the baby fruits. Surely, with this in mind, the pomologist can have nothing to "kick" about.

But ambition and the gratification of personal desires lead both bees and men to scatter evil as well as good. All wings, except those of angels, attract, and will carry the germs of evil if they rub against it. It is quite likely that the bees will carry the germs of pear-blight from one tree to another—perhaps in quantities sufficient to spread the disease. Let us admit that; and yet no pear-grower who knows his business would have the bees stay entirely away from his trees. The bee also injures fruit to a certain extent. There may be times when he actually leads in this bad work. When he does, he is starved to it. If he were fed at home, as every other farm animal would be at such a time, he would seldom do the mischief. In ordinary seasons I find little fault with the bee for sucking this cracked and broken fruit. We really ought to thank him this year for delivering us from the temptation to pack these worthless culls in the middle of the barrel. Our bee-keeping friends tell us that there is always some rascal that goes ahead with a punch, and breaks the skin before the bee will suck the juice. The yellow-jacket is said to be the culprit, and he is a safe one, for no one cares to argue the point with him. I don't like this hiding behind a yellow jacket. It is too much like the way some of these Christian nations have acted in China. Li Hung Chang and other yellow jackets before him have robbed the Chinese people for centuries, but that is no excuse for the looting and stealing on the part of the white men. Should not the bee-keeper feed his bees when their natural food is scarce and they really injure fruit? When I forget to feed my dog at home, and he runs to the neighbor's back yard for food which might feed the pig, have I a right to complain if the neighbor lives up to his legal privilege? My neighbor ought to remember that it was my dog's bark that tanned the hide of the tramp who frightened his children; but some neighbors are not built that way. They are like some pomologists who object when the bee tries to take pay for his services in a few rotten fruit. There are human beings who will run out of the best of homes. In fact, the more you feed them the more they run. Bees are much like humans in many respects. It is quite likely that a systematic method of feeding during honey-dearths in summer would eventually pay the bee keeper, just as many diary-men have become convinced against their wills that it pays to feed grain to cows at good pasture.

THE BEE AS A LAWYER.

Before the law the bee appears to have clearer rights than any other domestic animal. Recent legal decisions have made the bee's position very clear. In one noted case the bees flew into the orchard and unquestionably worked upon or damaged broken fruit. The jury finally decided, and I think justly, that the bees committed no real damage; yet had a cow or a hog broken into that orchard and eaten that same fruit, the owners would certainly have been liable for damages.

After reading the literature on the subject with great care, I think I am justified in saying that the bee has fuller and more complete legal protection than any other domestic animal. Why should not this be so, since, even in its wild state, untrained or directed by men, the bee is led by its very instinct to labor for the benefit of humanity? Certainly, no wild animal works for men as the bee does, and no domestic animal accomplished so much without direct harness or guidance.

Invoking the law against bees is running up against a hard proposition. Laws have been passed against spraying fruit-trees while in bloom. They are intended to give the bee legal protection. These laws have actually led some tough old fellows to spray at just

that time, so as to kill the bees. Some men are so perverted that they see a wrong and coddle it as a "personal right." These laws have helped the fruit-grower more than the bee-keeper, because they have led the scientific men to investigate and tell us *why* it is a mistake to spray too early.

It appears to have been settled that, before the law, bees are to be considered domestic animals—not naturally inclined to be offensive. A fair synopsis of the bee's legal status is about as follows:

1. Bees kept by a regular bee-keeper have become absolute property as domestic animals, and therefore enjoy legal rights.

2. The bee is not naturally savage. It is no more likely to commit serious damage and mischief than dogs, cats, cows or horses.

3. The law looks with most favor upon the animals which are most useful to man. No animal is of more actual service to man in proportion to his size and the mischief it commits than the bee.

4. After bees have been kept in a certain situation for a reasonable time without serious injury, it can not be said that it is dangerous to keep them there.

5. The bee-keeper becomes liable for injuries done by bees, only on the ground of actual or presumed negligence.

This seems to give the bee a clear field to go ahead about his business in his own way. It must be said that this strong legal position of the bee is largely due to the fact that bee-keepers have picked up some of the strong traits of the bees. When one of their number is attacked, they do not sew up their pockets and run off with their share of the honey, and as much more as they can get. They fly at once to the defense of their comrade, and make, not an individual, but a society matter of it.

The fruit-grower will obtain little satisfaction in a lawsuit against the bee or the bee-keeper. The bee is too good a friend of the judge. The relations between these two classes should be settled, not by the scales but by the Golden Rule. Every man who receives a benefit should remember where the benefit comes from. The bee-keeper might say with truth: "It is true that my bees feed upon my neighbor's trees; but they have not injured his farm, because they took no fertility away! He has no reason to kick, because they kick life into his fruit-buds."

This is all true enough, but it is only one side. The fruit-grower may say:

"These bees have increased my crop of fruit, but have they not been well paid for their work? I fed them, and the money in their owner's pocket comes from my farm!"

Two classes of men with interests which lap and nick in this way should never fight; for when one of them hits the other in the nose he is sure to blacken his own eye. They should recognize their mutual dependence, and treat each other fairly. The bee-keeper may say that the law gives him a right to put his hives close to another's dwelling. Still, if that location is offensive to his neighbor, the law which is higher than the decision of any human judge should lead him to put them elsewhere. I have heard of an old farmer who insisted on keeping an old, brindled calf tied on his lawn. The calf was in every way offensive to his neighbors, and he had ample space for it behind his barn; but he thrust that calf under the very noses of his neighbors, because the law said he had a right to do as he pleased with his own. That man, like many others, figures that such magnifying of his legal rights gave increased dignity to his personal rights; and what a foolish mistake he made! The man who will use his legal privileges as an offensive weapon against others, when it should be drawn only in defense of true principles, is not a true pomologist or bee-keeper.

I regard the raising of fine fruits, and the training and rearing of bees, as the highest types of soil culture, and hence of human industry. He who can direct and watch the slow development of the perfect fruit, and lovingly guard it from plant disease and injurious insects through the long road to perfect maturity; and he who can patiently and skillfully guide and train the honey-bee through its long summer's work—such men ennoble and dignify labor.

Their work may be hard and constant. Their hands may be hard and rough; but the callous on the palm is not a badge of servitude, but an honorable scar from labor's battlefield. Such men are not mere drudges, with body and spirit broken on the hard wheel of labor; but, dealing with the fine and most delicate problems of Nature, they keep step with the Creator; they are in direct partnership with God himself; and, as such partners, they, of all men, should be guided by the wisdom and justice of the Golden Rule.

H. W. COLLINGWOOD.

R. M. Kellogg, of Michigan—I am not unmindful that it is now 11 o'clock. I was intensely interested in the last address, not so much at what has been revealed to us, as to the work that is going on. We do not know so much about pollination of fruit as we should, but we are learning fast. It is not so many years ago, if we were to go to a well-informed farmer and tell him that the plants that he cultivated were male and female, he would open his eyes and say, "Is that so?" He knew nothing about the organism of plants; but I might say that within the last four years that subject has made more rapid strides than in the previous many years. I have never owned a bee, but, fortunately, my neighbors have. Now, I have never seen an insect so well fitted for the work of helping the pomologist as that little, busy bee. Why did God create the bee and arm it with that little fuzz all over its body and its eyebrows? Why was this done? And why did he put the nectar down in the bottom among the pistils, where the bees must dig to get it? Why was all this done, if it were not that there must be some agency to carry the pollen from one flower to another? I know of no other agency. They tell us that the wind does that. Will you tell us, then, how this pollen can be supplied in sufficient abundance, unless there is a magnet to draw it to that particular flower? God made the bee for that particular purpose. Now I suspect that we don't know as much about pollen as we should. I notice that lately a large number of postal cards were sent to different fruit-growers inquiring about self-fertilizing ability of the Kieffer pear, and the answer came back that this pear is self-fertilizing in some instances, and not in others. I apprehend that this is a mere physical condition of the trees, and in the meantime we must have something to carry the pollen. The bee always carries its pollen-brush. It will throw its arm over and brush it all off and put it on its thigh, and as it digs down it gets it all over its eyebrows. Now, on my farm, I had within three miles of me, colonies of bees. I never had any fruit injured by the bees. I have stood there and seen them at work, and the whole trees perfectly roaring with the bees at work all through the spring, but where I now live, I am sorry to say, I do not know of a colony of bees within miles. I had never seen, until the other day, a honey-bee on the farm, and I know that our fruits are not perfectly pollinated as they would be if bees were there. I am going to secure the presence of bees. I know that they cut a figure. I want to tell you one thing about spraying plants in bloom. I never spray my trees in bloom, but I did have a little misfortune. You have all learned that it is absolutely necessary to tell a hired man at least six times what you want done, and then go and see that he does it. Now, I have a patch of strawberries which I take great pains to make perfect, and every spring we spray our strawberries. I have a cart fixed up that sprays three rows at a time, and it sprays them very thoroughly. I set the hired man to spraying, and he also sprayed my specimen patch, and of all the knotty, deformed fruit that you ever saw, I got them off that patch. The spraying had killed the pollen. I think there is no question but that the bees are killed by spraying.

Dr. Miller—I think, Mr. President, that, considering the charges made against the bees, we are ready to rest the case.

Pres. Watrous—I will say for the benefit of some who have thought the bee-keepers hadn't had a fair show, it was my understanding that the program was arranged through a friendly consultation of the officers of the two societies, and that everything has been just as fair as possible. I want to say that I believe the results have been very good. I hope so.

Dr. Mason—I think the bee-keepers feel that we have made no mistake in selecting these gentlemen who talked to you to-night, to present our case.

Pres. Watrous—I think not.

Adjournment of the joint session.

After the adjournment Pres. Root called for a meeting of the National Bee-Keepers' Association present to finish up the business of the convention.

Fifth Annual Report of General Manager of the National Bee-Keepers' Association.

THE UTTER VS. UTTER CASE.

In my last annual report I stated that the celebrated case of Utter vs. Utter, in Orange County, New York, had been appealed to the County Court. It will be recalled by most of the mem-

bers, that in the trial before a Justice of the Peace, wherein it was charged that the bees had injured a peach-grower's fruit, the Justice had decided against the bee-keeper, and assessed the damages at $25 and costs. This case came on before the County Court on appeal, and occupied several days. A number of witnesses were introduced by the fruit-men, attempting to prove that bees *could* and *did* injure sound peaches. On the other hand, the association put such experts on the witness stand as Frank Benton, W. F. Marks, A. I. and E. R. Root, and O. L. Hershier, who were able to convince the Court and Jury that the bees were innocent.

After summing up the case by our able and learned legal counsel, the Court instructed the Jury as to the law, and they were not slow to overrule the judgment of the lower court, and acquit our friend, the innocent bee-keeper.

Thus ended one of the most widely advertised and hotly contested bee lawsuits which has come to my attention. There is no doubt of the influence which this verdict will have on future troubles of this kind. The case ought to be briefed for future use, and would have been if I could have carried out my own plans.

THE CITY OF ROCHESTER VS. TAUNTON.

Another case almost as notorious as the one just mentioned came to an issue in Rochester, N. Y. In Dec., 1900, an attempt was made to pass an ordinance prohibiting the keeping of bees within the City limits. This movement appeared to be directed against one particular bee-keeper, and was probably a case of jealousy or spite. Having been appealed to by the bee-keeper, a member of our Association, such advice and printed matter was sent him as the General Manager was capable of supplying, and it was thought for a time that the persecution was at an end; but, in April, 1901, an ordinance was again presented and *passed*, declaring it unlawful to keep bees within the City limits except with the consent of *all lot owners within 100 feet of the place where it was purposed to keep bees*. Our member was notified by the City authorities to remove the bees. W. F. Marks, one of our directors, was requested to visit Rochester and investigate. He did so, and reported that Mr. Taunton was keeping his bees in a proper manner. He was advised not to remove them. He was arrested and tried before a police Judge. I employed the best legal talent to be found in the City and defended the bee-keeper. After a hard legal battle the ordinance was declared unconstitutional, and another victory scored for the Association. All the daily papers of Rochester reported the case, and, in all, *columns* were published about the ordinance and its miscarriage. There has probably been more newspaper notoriety concerning these two New York cases than all others which had previously gotten into the courts.

KEEPING BEES IN A PROPER MANNER.

Another case was reported from a small town in Michigan, where a bee-keeper was ordered to remove his bees from the town limits. Mr. Hutchinson was requested to investigate and report, which he did, advising the member to remove his bees, which Mr. Hutchinson thought had not been handled in a manner to make good neighbors, or a good case to fight.

This is to show that we do not advise resistance in every instance. Bees may be so manipulated as to become a nuisance to near-by neighbors, and it is not the purpose of the present management to encourage such careless methods. It should be the aim of all bee-keepers to convince the uneducated public that bee-keeping is not only a legitimate industry, worthy of encouragement on economic grounds, but they should endeavor to prevent annoyance to neighbors by intelligent methods. For example: If I had a near neighbor, I would never take my bees out of the cellar on wash-day. If I lived in town, I would try to avoid the unpleasant experience of chasing swarms into my neighbors' yard, by clipping my queens or by pursuing a system of management which would discourage swarming. I would try to handle my bees at all times in such a manner as to prevent robbing, and the consequent consternation and irritability sure to follow. If all these things were looked after by bee-keepers, there would be less opposition to our pursuit.

SETTLEMENTS WITH COMMISSION MEN.

During the past year the General Manager has been appealed to in several instances to assist in getting settlements with commission-men who had neglected to remit, and he has been able to render assistance that was heartily commended.

BEES AND PEAR-BLIGHT.

A great commotion was started in California last spring on the charge that bees carried pear-blight, and in one county the Board of Supervisors was petitioned to remove all bees at least *two miles* from the pear-orchards. In the subsequent discussion on this subject certain orchardists and bacteriologists have made grave, but reckless, charges against the bees, as though bee-keepers had no rights which fruit-growers ought to respect. It seems to be forgotten that bee-keepers were in California long before pear-growers, and, according to the reasonable law of priority, were entitled to the field.

I know nothing about the conditions in California, but in my own locality bees were kept many years before twig-blight appeared. How did it get here? Did bees bring it? No one believes they did.

If bees are so guilty how does it happen that trees blight which never had a bloom on them? Why do they blight mostly long after the blossoming period?—(which is the case here.) Why do they blight badly one year and not the next? And if bees are guilty as charged, what good would it do to banish the domestic bees when the legions of wild ones would be left to carry on their work of destruction?

I am satisfied that, when the whole truth is known, this unjust persecution will cease, and that every thoroughly scientific observer will take his hat off in the presence of God's busy handmaiden, the wonderful, the useful, the necessary bee.

FINANCIAL STATEMENT OF THE TREASURER, DECEMBER 20, 1901.

RECEIPTS.

Balance on hand from last report	$ 521.15
Received during year, dues, including $27.31 received through Sec. Mason	673.91
Total Receipts	$1,195.06

EXPENDITURES.

Attorneys in trial of Utter vs. Utter	$ 100.00
Witness Frank Benton's expenses	22.85
" O. L. Hershiser's "	26.76
" W. F. Mark's "	10.00
Copy of Judge's Instructions to Jury	3.00
W. Z. Hutchinson's Expenses to Fowlerville, Mich.	7.00
1,000 Envelopes, printed	3.00
1,000 Pamphlets, Constitution, Etc.	15.00
George W. York, Reporting Convention of 1900 (one-half the cost)	70.00
Attorneys in Rochester case	50.00
Indexed Card Cabinet for Names of Members	8.53
Printing reports, law-cases concerning bee-keepers' rights	7.00
Membership Cards and Letter File	2.25
Postage Stamps	18.00
Renewal Blanks	4.25
500 Letter Heads	2.75
Salary of General Manager	117.00
Total Expenditures	$ 476.39

RECAPITULATION.

Receipts and balance on hand 1900	$ 1,195.06
Expenditures for 1901	476.39
Balance on hand	$ 718.67

NOTE.—The amount received does not represent membership, as many State and local societies join in a body at 50 cents per member.

IN CONCLUSION.

For five years I have rendered this Association such services as my limited abilities fitted me to perform. Other and more congenial work has been neglected that I might discharge the duties of General Manager in a manner to satisfy my own conscience. While some of the work has been hard, I have found many sympathizing friends and kind treatment generally. To all who so generously contributed to make this the largest and strongest bee-keeper's society in America, I tender my most grateful thanks; but I must beg to be relieved from the cares of this responsible office. I wish to turn over the insignia of office and all its emoluments to my successor—a stronger, wiser, less busy, more useful man. Fraternally yours.

EUGENE SECOR.
General Manager.

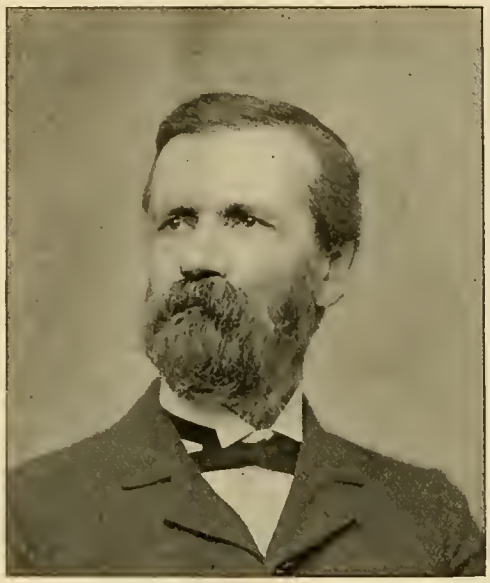
Forest City, Iowa, Dec. 26, 1901.

Langstroth on the Honey-Bee.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.



EUGENE SECOR,

General Manager National Bee-Keepers' Association.

THE SCORE-CARD FOR JUDGING APIARIAN EXHIBITS

as revised by the Special Committee appointed at the Convention of the National Bee-Keepers' Association, at Buffalo, N.Y., 1901.

GENERAL DISPLAY.

COMB HONEY	Quality 40	Perfection of capping	10
		Completeness of capping	10
		*Neatness of capping	10
		Straightness of comb	5
		Cleanliness of sections	5
	Variety		20
	Quantity		10
	Attractiveness		30
EXTRACTED HONEY	Quality 30	Body	15
		Flavor	15
	Style of package		5
	Kinds of packages		5
	Variety		20
	Quantity		10
	Attractiveness		30

SINGLE ENTRY.

20 sections, no more or less, graded as WHITE, AMBER and DARK.

COMB HONEY	Quality 90	Perfection of filling	15
		Completeness of capping	15
		*Neatness of capping	25
		Uniformity	15
		Color	10
		Straightness of comb	5
		Cleanliness of sections	5
	Attractiveness		10

25 pounds, no more or less, in glass; graded as WHITE, AMBER and DARK.

LIQUID EXTRACTED HONEY	Color	20
	Body	35
	Flavor	35
	Style of package	10
GRANULATED EXTRACTED HONEY	Fineness of grain	30
	Color	30
	Flavor	30
	Style of package	10

* Neatness of capping is understood to include freeness from travel-stain, etc., and also the work of the wax-moth.

NUCLEUS OF BEES IN SINGLE-COMB OBSERVATION HIVE	Size of workers	10
	Markings of workers	10
	Uniformity of workers	10
	Markings of drones	5
	Uniformity of drones	5
	Presence of queen	10
	Size of queen	10
	Markings of queen	10
	Worker-brood	10
	Drone-brood	5
	Quietness of bees	5
	Style of comb	5
	Style of hive	5
QUEEN-BEES	Quality [size and markings]	50
	Variety	25
	Style of cages	25
BEESWAX	Color	25
	Purity	25
	Grain	10
	Aroma	10
	Attractiveness	30
IMPLEMENTS AND SUPPLIES	Number of kinds	50
	Appearance and attractiveness	50

Contributed Articles.

Selling Comb Honey By Weight vs. Case.

BY R. A. BURNETT & CO.

WE have read the article by D. W. Working, secretary of the Colorado Bee-Keepers' Association, on page 822 (1901), also the editorial on the same, which, in our judgment, is all that is necessary to say on the article referred to.

Our purpose has never been to enter into a controversy on the matter in question, but to set before those interested, our opinions. We think this has been accomplished; now we will let the matter percolate through the many minds that have been giving it consideration from the different standpoints, and we are quite agreed in thinking that some ignorance will be dispelled by what has been written and said.

Since the time this matter was before the Colorado Asssociation, we have been privileged to meet the earnest, active, and well-meaning manager of said Association, in the person of Mr. Frank Ranchfuss, and we are now more convinced than ever before, that limited experience is liable to give erroneous impressions. While his experience with bee-keepers in Colorado, and that of selling their honey as an Association, seems to work reasonably well so far as their necessities were concerned, also the methods pursued to get the producer to grade their honey seemed to us without objection, yet when it came to settling with the producer for the amount of honey tendered the Association, and the selling of it to the wholesale dealers, Mr. Ranchfuss himself explained, "It was not quite equitable." As, for instance, a producer who furnished honey properly filled and capped that averaged 21 pounds, and no more, and got just as much for the number of sections he had as the producer whose honey averaged 23 pounds or more to the case of 24 sections.

As to the question of light-weight sections, the honey being equally desirable in appearance, should sell for just as much as that weighing the maximum, but should be kept by itself, so that the light and the heavy sections would not be put in the same case, for, while there may not be any higher price obtained for the light weight than the heavy, there are some retailers who prefer one and some the other, and the wholesale dealer wants to be able to furnish what the retailer desires. In case there should be a greater demand for the light-weight sections than the heavy, they would be sold more readily, but not often at any higher price.

Mr. Ranchfuss meeting with the different dealers in honey will no doubt be greatly to the advantage of the Association, and it will give the buyers confidence that they are in safe hands, even if they do at times have to pay the money before they get the goods.

Cook Co., Ill.

Honey-Vinegar—Directions for Making.

BY C. P. DADANT.

MR. DADANT:—Would you please tell me the best and quickest way of making honey-vinegar, and how long it takes to make it? It will be better to tell you I want to make it in large quantities for market. Do you know of any way in which the process could be materially hastened by means of a little machinery? I mean, for instance, by the means used in ordinary vinegar-making. I do not know of any one more willing to give me information, or more able. Will you please help me out? You probably know better what I need than I am able to ask.

ONTARIO.

From time to time, the question of honey-vinegar comes up as a new thing, and yet has been debated and discussed many times over in the bee-papers. Upon receipt of this enquiry, I concluded to refer our friend to some previous article of mine in the American Bee Journal, but I soon found that it was quite a task to hunt it up in back numbers, and after considering that very few, probably, keep their bee-papers on file, I concluded it was best to give the matter a special article.

There are evidently many bee-keepers, even among the most practical, who do not consider the honey-vinegar question as of any importance, if I judge by the number of persons who send us their beeswax still soaked with honey. Yet, to a large apiarist, there is quite a loss in throwing away the water in which the cappings have been melted. I see that Prof. Cook quotes Bingham as saying that the cappings of 1,000 pounds of honey will give honey enough for 45 gallons of vinegar. I should hesitate to set a figure as representing

the exact amount, because the amount of honey in cappings depends upon the manner in which the extracting and uncapping were done, upon the temperature, and also upon the length of time during which these cappings have been allowed to drain in a properly-made capping-can. But there is no doubt that, to the apiarist who extracts thousands of pounds, the amount of honey left in the cappings, even after the most thorough draining, represents a value which he cannot afford to lose. Whenever the apiarist ships his beeswax, dripping with honey, as I have so often seen it, he certainly does not appreciate the amount that he could save with little exertion.

When we extract honey, we allow the cappings to drain for a long time. When the time comes to render the wax, we first wash the entire mass in hot water. Any kettle or boiler that is used to render beeswax will do for this purpose An amount of water sufficient to soak the cappings is first put in. The cappings are then carefully broken up into fragments so that the water may thoroughly soak through, and the mass is heated until it is about as hot as your finger can stand. We then remove the fire, and, with a large skimmer, made of a wire frame, with a wire-cloth sieve, we lift out the cappings. Usually the thickest portion of them is taken out by hand, and the sieve used only for skimming off the floating remnants. In order to get the very smallest particles of beeswax, the

C. P. DADANT.

liquid may then be passed through a flour-sack. The cappings thus washed are put into a coarse sack and pressed in any sort of small press. We use a diminutive cider-press screw with a small, flat, wooden platform. A very light pressure on these cappings will drain all the sweetened water out of them and leave them about dry. They can be melted afterward by the usual process, this operation being intended only to remove all the honey for mead or vinegar purposes.

The liquid thus obtained will not appear very clean, but our apiarist will have to bear in mind that it is "clean dirt." Of this he will have no doubt if the extracting has been properly and neatly done. All the contents of the capping-can come from the surface of combs which the daintiest persons would readily have eaten; and when the liquid has undergone fermentation, the dregs will settle to the bottom, and all the froth and foam, and all the cloudiness, will disappear.

Now as to the strength of the liquid: The reader understands that it is impossible to judge of this by the cappings. The honey-water, after it is made, must be tested. Those who have saccharometers would not be at a loss, but not one in five hundred of our apiarists, except in California, where wine is largely made, would have such an instrument. Here is a simple method:

Put a gallon or so of the mixture in a pan, enough of it to float an egg. If the egg goes to the bottom and lies on its side, the mixture is too weak, and it must be evaporated down or more honey must be added. If the egg floats about in the liquid, or, when dropped in, turns its big end up quickly and remains in that position, there is enough honey to make a good, ordinary grade of vinegar. If the egg just stops at the top, it will make a very strong grade. If it shows more than a spot the size of a dime, the liquid is too heavy, and more water must be added, at least till the egg almost sinks.

It must be borne in mind that the stronger the wine or vinegar that is sought to be made, the longer it will take to make it. Too great a quantity of saccharine matter will fail to go through the alcoholic and acetic fermentation, and will always retain a strong percentage of sweetness. From a pound and a quarter to a pound and a half of honey per gallon will make a very good grade of vinegar, fully as strong as the ordinary cider-vinegar, and of a better flavor. A greater quantity will make proportionately stronger vinegar, but will require much more time. Some advise the use of only a pound of honey to a gallon of water. This, in my estimation, is too small a quantity, but the fermentation in such a proportion will take place very rapidly.

Now as to the making of this vinegar: It must be borne in mind that there are two very distinct processes which must follow each other in the making of vinegar. The first is the alcoholic fermentation, by which the saccharine matter—whether honey, grape-juice or apple-juice—changes into alcohol. The second is the acetic fermentation, by which this alcohol changes to vinegar, so that without alcoholic fermentation no acetic fermentation is possible. It sometimes happens that both fermentations go through together and continuously, but they are much less thorough, and occupy more time.

Although honey, like grapes and apples, contains most of the elements that go towards fermentation, these elements cannot develop fully unless the circumstances are favorable. Too high a temperature, say above 170 degrees, Fahr., will destroy the germs of fermentation. Too low a temperature, say below 60 degrees, will arrest or retard their development, though it will not be destructive to them. A temperature of 75 degrees to 90 degrees is the most favorable. If at this degree the liquid does not promptly begin to show signs of disturbance by the production of gas bubbles and a slight noise with a vinous smell, the fermentation must be hastened by furnishing to the liquid the missing germs. This is done by mixing into the liquid, fresh grape-juice, apple-juice, or yeast of some kind. It does not take a great deal of ferment to start a fermentation, because those germs are self-reproducing in any sweet liquid at the proper temperatures. This is the most important point. As a matter of course, the contact of the air is needed, but this is sure to be provided for, as the vehemence of the fermentation, when once begun, will increase the bulk of the liquid, producing carbonic-acid gas which must escape or burst the vessel. For this reason the fermentation must always be in open vessels.

When the vinous fermentation is well under way, the contact of the air will at once induce the secondary or acetic fermentation, which, although less tumultuous, still gives rise to the production of gases.

If things are favorable—the temperature right—at the end of one or two weeks the vinous fermentation will be over, and the acetic work will begin. At this time the contact of the air is most needed for every part of the liquid. To secure this, the makers of vinegar allow the liquid to drip slowly over a wide surface. Some use a barrel filled with coarse shavings and soaked with vinegar already made. The barrel is open at the head and set on end with a faucet at the bottom to allow the liquid to pass down into another barrel. I am told that some manufacturers of vinegar, here, use corn-cobs instead of shavings, and this is perhaps even better. A barrel full of the already fermented liquid is allowed to leak slowly out, passing through the soaked cobs and steadily changing by the contact of the air and of the already acid vinegar which soaks the cobs. If the temperature is right, I am told that in this manner the most acetic fermentation will take place within a few hours. I say, "I am told," because we have never taken the trouble to do it in this way. After the vinous fermentation has taken place we have always kept our vinegar in barrels in a warm cellar, relying on the slow action of the atmosphere to make our vinegar.

There was a time when we thought it would pay to make vinegar for sale on a large scale. We have given this up. Too much cheap vinegar is sold at less than it would cost to make good honey-vinegar. It is true that a limited quantity can be sold to judicious persons who prefer paying a trifle more—say a couple dollars more per year—for their supply of vinegar rather than endanger the life of the family by taking the risks of the vile compounds that are sometimes retailed at 10 to 12 cents or less per gallon. But in the apple-growing district

like the locality that we inhabit, cider is too plentiful, and the making of cider-vinegar too common to leave much room for a large sale of honey-vinegar. Yet, we always have on hand a barrel or so of vinegar, made from honey and wine mixed, to supply a limited number of customers who have learned to appreciate it. Hancock Co., Ill.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

A Question on Breeding.

I got a queen last summer and her bees were all fine looking ones, and I reared several queens from her. One of my neighbors reared several from her, and I do not know whether he got a queen that seemed purely mated or not, but I got only one, and he said that all of his that he had looked at were just as I said mine was. Some of my bees had not a band on them, and some were nice bees, from the same queen. Only one seemed purely mated; her bees were all dandies, and she was the only yellow queen that hatched from the queen I got. Is there such a thing as a bee cropping out of an old cross of 20 years back? I did not rear any other queens last summer hat were impurely mated. IOWA.

ANSWER.—Atavism, or breeding-back, is well known to exist in the human race and other animals, and I know of no reason why it might not exist among bees. But going back 20 years would be going back anywhere from seven to twenty or more generations, and that would be going back pretty far. Neither is there anything, I think, in the case you mention that cannot be accounted for without any atavism.

Sowing Sweet Clover for Cattle, Bees and Seed.

1. I am thinking of seeding 40 acres to oats and sweet clover in the spring. I will keep the field pastured down until the first of August, by cattle, then let it get a good fall growth; only perhaps feed it down some in September and October. Could I reasonably expect to secure a good stand?

2. The following spring I will run cattle on the field until June first so as to keep it fairly eaten down, so that it will not grow so rank, but thicker; let the bees work it until ripe, then cut for seed, binding with a common grain harvester. Can you suggest any better plan to pursue?

3. How many bushels per acre of seed can I count on?

4. Would not the tramping of the cattle insure a stand? The oats would make feed for the stock before the sweet clover is big enough.

5. Could I count on any surplus honey from these 40 acres of sweet clover with 100 colonies of bees to work it?

Sweet clover grows very vigorously along roadsides here, wherever it gets a start, and in places its seed blows over fences and comes up in pastures, but cattle never let it even get into bloom. Cattle are very fond of it when they once get a start on it. IOWA FRANK.

ANSWERS.—From what I know of you I should feel more like asking than giving advice about sweet clover. Still I don't object to telling you some of the things I don't know about it. There are really a few subjects that come in the scope of bee-keeping upon which I have studied and experimented so much and yet know so little for certain. Especially as to making a success of getting a stand. One year I had a piece of ground put in as fine condition as I knew how, sowed it with oats and sweet clover, had a fine stand of clover, although it did not grow very strong; but the following spring not a plant was left alive; all heaved with the frost. I think the mistake was in having the ground too mellow, although if it makes strong enough growth for the roots to grow deep enough it may be all right. Still, I should prefer to have the ground very hard, for I never saw a roadside that seemed too hard to grow sweet clover.

Another year I sowed sweet clover with oats, cutting it with the oats, and it didn't wait for winter, but died right off. The fatal mistake was probably in cutting it too low, especially as the cutting was followed by dry weather. Last season I sowed several acres, and I failed still earlier, for not ten seeds to a square rod ever came up. I don't know, but I think it might have come up better if the ground had been harder or the weather not so dry. But where there has been any kind of a stand that has been left from season to season, it seems to do fairly well. Now, if you haven't lost all faith in my knowledge of sweet clover, I'll make a guess at the answers to your questions.

AN APIARY OF ALEXANDER FOURIER, OF RUSSIA.—(See page 18.)

1. If I understand you, you will turn cattle on the field after a fair growth has started, taking them off about August 1, and return them in September. My guess would be that it will be a dead failure. And yet it is possible that it may be an entire success. Something depends on the cattle. If they have been trained to eat sweet clover they will likely eat it down so close as to kill it. If they don't care for it, their tramping it down may be its salvation. It is possible that it might be a good thing to turn the cattle in when the seed is first sown, so as to have it thoroughly tramped in.

2. *If* there is a stand the following spring, I should rather keep the cattle off till it has a pretty fair start, and be on the lookout not to let them eat it down too close at any time. And yet I have seen it on the roadside where it *seemed* to have been eaten down close all summer, and it grew but little higher than white clover, but even at that height it kept persistently coming up and blooming all summer and fall, making really a pretty carpet on the side of the road. Your idea to keep it down till June 1, or till it is ready to bud for blossom, is all right.

3. I don't know. I think I've seen a statement as to the crop somewhere, but don't know where to turn to it now. Perhaps some one may help us out.

4. As I have already shown, I have great faith in the tramping of the cattle, but there is the danger that they may undo all the good of the tramping by too close eating.

5. I don't know. It's too dangerous a question to guess on, but if I were obliged to guess I would guess yes, for in all probability there are other plants from which the bees would at least get something, and at any rate I should count on considerable value from that 40 acres. Indeed, if you force me down to confession, I must confess that I'm not sure but 100 colonies might store surplus from 40 acres of sweet clover without any other help.

Now a word before we part. You'll sow that field, and if it isn't a success you'll keep as still as a mouse about it. Please don't do that way. Tell us all about your success, and your failure, and tell us as nearly as you can how to make the same success and to avoid the same failure. If you succeed in having 40 acres of it to come up good and strong the second spring, you can crow over me like everything, and I'll stand it like a major.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

OPTIMISM OR PESSIMISM—WHICH?

I say optimism, every time. Some say pessimism. Paul said, "Faith, hope, charity, these three, and the greatest of these is charity." Wasn't it a good trio? I feel like blessing Paul every day for that chapter—13th of 1st Corinthians—which, next to Matthew 5th and John 14th and 15th, seems to me the most inspiring of all literature. How much poorer I would be—how much poorer the world would be—had Paul failed to pen that wondrous essay on Love.

I said yesterday, to my large, splendid bible class, that the three greatest personages that had blessed this world with their glorious—none too strong a word—presence, were Christ—no one would say nay to that; Paul—if any one would to that, let him read Corinthians, 13th chapter; and Moses. These three words—faith, hope, charity—aren't they matchless? Take away faith, which means trust, confidence, and the world would go to pieces instanter. I think Paul would have said that a man without faith in God and his fellows lacks the very foundation of all worth and usefulness. I know he said "Faith is an anchor to the soul, sure and steadfast." How fortunate are we parents who can feel assured that our children rejoice in this faith.

Years agone I committed to memory, that I might always have with me at command, that beautifully suggestive verse—or was it a loving command?—also from Paul: "Add to your faith virtue, to virtue knowledge, to knowledge temperance, to temperance patience, to patience godliness, to godliness brotherly kindness, and to brotherly kindness charity." We see, as in the grand trio, faith here is the foundation of the stepping-stones, the grand start-off. So it is in any life.

Yesterday I was asked in bible class, why some excellent people had unworthy children. I have thought of that much. I believe the first and chief reason is, that they are so busy that they neglect the most precious belongings of any man or woman—the blessed children—and so lose their trust, their confidence. A bad environment is very hard on virtue, very menacing to a true, right life; but if a girl is absolutely confidential with mother, and a boy with both father and mother, they will be safe in a pretty bad environment. We parents must keep the faith of our children. When that goes, then God help, or the child goes to the bad.

But Paul was giving a grand climax—faith, *hope*, charity—a climax evidently, for he says "the greatest of these is charity." Then hope comes in even after faith. Thank God, the great Paul was an optimist. He had faith in God, and in his fellows, and so was full of hope. The world has many "side-shows" full of horrible sights. The group of boys hidden behind wall or fence, with their cigarettes, their profane utterances, and foul, dirty speech; the horrid saloon, which we must all aid to our utmost to bring to naught; worst of all, the brothel, fed by the lecherous speech of the boys lurking in the shadow of the wall. Sometimes the main tent shows only filth and blackness. God be praised that such places are becoming more and more rare.

Despite this ugly show of evil, the world was never so good as to-day. Faith, hope and charity occupy more seats than ever before. There is more of Christ, and less of anti-Christ, abroad upon the earth this morning than ever before since the morning stars first sang together in that erst-day of creation.

We see the boy profane, disrespectful, and with the cigarette, and we sometimes sigh for the old days when there was more reverence in the world. We have only to open our histories, or think of our own early experience, if it was at all wide extended, and reaches back a score or two of years, to find of a truth that Reverence takes a higher seat now, this very morning, than she ever occupied before in all the Earth's history. Yes, we may be filled with hope. We have a right to be optimists. God is still in the world, he is ever at work. As the grand result of that work, faith is to-day more rich and full in the human heart, hope is more inspiring, and love is more perfect and controlling than ever before. Knowing and feeling this, we may all be optimists, and urged on by the hope that gives us more abundant faith, and helps on to a more perfect love, we may be God's own agents in gilding the world with still greater brightness. And it will be our greatest glory that we help to build on to the faith, hope and love which shall still more abide.

Pessimism cheers no heart, brightens no path, and is an offense against the very God that gives us all the delights of home, all the glory of living.

Optimism keeps our own hearts warm and true, floods with sunshine myriad other hearts, and is our best praise-service to the All-Father.

THE DOG.

I fear I may have wounded some heart in my show-up of the dog. I fear I was wrong. My father had a dislike for dogs. May be I inherited a similar dislike. Perhaps my father's oft-expressed aversion, and that when I was first reaching out for ideas and sentiments, at that early, susceptible time, when feeling so easily and quickly takes root, gave me a prejudice which has never let go. My father was severely utilitarian. He saw in the dog only a meat-eater and a bill of expense. He would often call my attention to a shiftless, no-account man, with his two or three worthless curs.

An excellent neighbor near by has a dog that often makes the night wretched by hours of howling and barking. Surely, such a dog has no rights that any man is bound to respect. Yet I know that the best uses of pets is not the mice caught, not the cash which they hand over to the family exchequer. The dog that gives comfort to parents and children, that quickens sympathy, that builds up in the heart affection, that calls out love and the spirit of sympathy, is all right. My nearest neighbor has a dog named "Sam." Sam is a most proper dog. He never barks at night, though, like California roosters, he has frequent reminders that it is possible to make night hideous; he never barks at passing team, and, indeed, he is a "gentleman" dog. I see he brings real comfort to the home, so I am glad that Sam is one of our respectable "citizens," and would have him banished on no account.

My nearest neighbor on the other side is like the other, one of the very best neighbors that ever blessed a community. He has a dog "Jocko." Jocko is old, and ought to know better than ever to bark at the hours sacred to rest and quiet. Once in a great while Jocko speaks out. I think it is at displeasure of another dog, that thinks his bark an adornment of any time or hour of night. When Jocko barks his master goes at once and administers a smart reproof, that I think smarts. At least it quiets Jocko, and usually is sufficient for days. I am glad Jocko is one of our number. He disturbs very little, and is a pleasure to several good people.

The other dog is a consummate nuisance, as is any dog, boy, or man, that disturbs the quiet and peace of the night. More than this, he dashes out at passing team or vehicle in a way that few horses can stand, and thus is ever a menace to life and limb.

THE HORNED TOAD.

He is a pretty fellow, neat, clean, agile, friendly. He is as much a feature of the California roadside scenery as is the real toad or frog of the East. His coat is of sober gray, though prettily striped. Its color hides its owner, as against the gray of earth; his toadship, when quiet, is as if not. And why the many sharp horns all over his body? They, too, give friendly protection. Mr. Gopher-Snake finds him hard to swallow. He is too thorny a morsel. Really, he is no toad at all, but a lizard. His shape is like the toads, except he has a short tail, and so his common name, which should be horned lizard. He is not as quick as the other lizards, or swift, which are more snakelike in form, and are possessed of a longer tail. They, too, are very common here. Both have a dangerous country to live in, as there are so few toads and frogs that owl and snake are often forced to go to bed hungry. So they are quick-eyed, day and night, for any morsel to break their fast.

The common lizard is swift to take flight, and usually hies away from danger. The horned lizard is too spinous; neither owl nor snake like the many horns. Our little friend feeds mainly on ants, which he picks up with a dexterity that is amazing. A queer thing about our little pet, is the habit of throwing blood from its eyes when vexed or annoyed. I have known it to throw several small drops.

GENERAL ITEMS

Bees Did Fairly Well.

My bees did fairly well last summer. I got 80 pounds of honey to the colony. I have 12 colonies wintering on the summer stands, packed with leaves. FRED ROBY.

Hall Co., Nebr., Dec. 21.

Too Wet for Bees the Past Season.

Bees are in winter quarters once more. We have to make ours as comfortable at as small an expense as possible, for while we take pleasure in the pursuit in a small way, we have to use economy if we want to be ahead at the end of the season with anything but experience. Now, experience is a very good thing, but experience blended with a few shekels derived from the same pursuit makes a better combination, so long as honesty predominates.

Our 13 colonies went into winter quarters well fortified with bees and honey. It was too wet the past season for bees in this locality. Our bees worked on the red clover when the weather was so they could work.

M. P. LOWRY.

Armstrong Co., Pa., Dec. 18.

Anti-Adulteration—The Past Season

EDITOR YORK:—You did a good thing for the "fraternity" by writing and publishing the letter on page 771 (1901). But strange the Chicago Tribune is so loth to do the bee-keepers and their customers justice. Nothing less than printing your letter in full in that paper should have been done. I know all bee-keepers will thank you most heartily for the letter.

The past season in this vicinity has again been a little discouraging, though very much more encouraging than the two seasons before the last, which were total failures.

Bees generally wintered well last winter, coming through in good shape, but the cold, wet spring retarded brood-rearing, except where extra pains were taken with colonies by feeding, etc.

Apple-bloom was very scarce—a source from which we usually expect much nectar. Most of us were very much surprised to get any clover or basswood honey, but we got it, and of good quality—about half an average crop.

Buckwheat bloom and fall blossoms were sure, we thought, to yield us a good crop, because bees were in extra-fine condition, but alas, not nearly half a crop was harvested, owing to the drouth, perhaps.

Bees went into winter quarters strong in numbers, with plenty of honey, but have not had a flight for six weeks.

White comb honey is bringing as high as 17 cents a pound, wholesale; fall honey about 14 cents on the average; extracted, white, is 12 cents retail; no call for it at the stores to retail. GEORGE SPITLER.

Crawford Co., Pa., Dec. 12.

Meltose, Again.

We had a fine flow of honey the last two weeks of June; then the drouth came and cut everything off—pastures, meadows, and all crops, about one-half.

I got just about an even 25 pounds of very fine comb honey to the colony, spring count, and 10 swarms. Only one of the latter stored any surplus.

I doubled up and killed off, so that I now have the same number in the cellar that I had last winter—26 colonies.

I received a letter not long since from the Sanitas Food Co., some one having sent in my address. They say this in regard to Meltose or "Malt Honey:"

"It is the latest triumph in the art of preparing cereal foods by *natural* processes..... It should be substituted for cane-sugar, syrup, honey, and all *artificially* prepared sweets."

The italics are mine. Also, any "inquiries would receive prompt attention," etc.

I asked them to explain how they could truthfully claim meltose to be a *natural* product, while they classed honey with *artificially* prepared *sweets?*" I also volunteered the information that bees do not gather and store honey with their "cunning little feet." And, too, I ordered a sample of meltose. Five days after my letter was mailed a reply came back—pretty quick time.

I want them to have the benefit of a correction in regard to the "cunning little feet" of the honey-bee which, they say, was a stenographer's error, and should have been, "that cunning little thief, the honey-bee."

The sample of meltose has not arrived yet, as I hoped it would before sending this letter. Those who have tasted it call it a very palatable sweet, but I have no fears that it will interfere with the honey-trade.

By the way, they apparently forgot (?) to answer the question I asked, for nothing was said in their letter in regard to it.

A. F. FOOTE.

Mitchell Co., Iowa, Dec. 19.

[This meltose product was pretty well aired in these columns several months ago. We have a sample of it, and prefer the poorest grade of extracted honey to meltose. Of course, tastes differ, but bee-keepers need not fear its becoming a competitor of honey.—EDITOR.]

Poor Season in Oklahoma.

Our season has been very poor. No one except myself and one other bee-keeper got any surplus. Those who are keeping bees on the old style will lose most of them this winter.

I find I can't keep up with the times without taking bee-papers.

F. W. VAN DE MARK.

Oklahoma Co., O. T., Nov. 18.

Our Editor's Den—Other Matters.

Are we an up-to-date people? Recently I visited the "Old Reliable," and will tell of a few things I saw, and leave it to you. We readers know nothing about what energy is required to get out the Journal; if we did we would have a fit.

There are no type-setting machines, all the forms being hand-set. Everybody is as busy as bees in a good flow of nectar.

"George" is doing the two-man act; attends to all correspondence, is errand boy, editor, and, in fact, does everything possible to save cost, and anything that will add to the improvement of the Journal—he is right after it.

While I was there I saw several double armfuls of letters ready for mailing, these all going to delinquent subscribers. "George" told me it cost some $80 or more to send out all these statements—$80 of wasted energy—but it must be done. This waste, if it were added to improving the Journal, would be a good thing.

He also said if the books were balanced we could have a much better Journal; he could put in a type-setting machine that one operator could do the work of four or five typesetters; the saving would go to the readers in the way of improvement in the Journal.

Mailing day! Well, if all the readers could see it. Why, it gave me a shamed face to think we were so small as to demand a premium queen when sending in a new name, just because "George" said he would give it. It appeared to me as if some of us wanted the earth, and fenced in. As to mailing day, well, they were busy with wrappers and paste, all hands and the cook—"George's" cook, if you please—Mrs. York was there, not as a spectator, but was at the mailing table, and was as busy as any one of the other three girls.

The office boasts of a "devil," but we thought him to be a rather old one. He, too, was busy. The supply department looked as if it needed a boy or so; they were busy with the honey-trade.

Go there as I did for five days at the den, and see if you can come away without feeling

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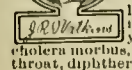

It means that here is a remedy that makes you feel certain of the lives of your dear ones in cases of accident or sudden sickness. It means many dollars saved to you that would otherwise go to the doctor or veterinary. In all cases of cholera morbus, diarrhoea, flux, rheumatism, cuts, cramps, strains, burns, mumps, sore throat, diphtheria, etc., it is a God-send.

Worth Its Weight in Gold.

Red Lake, Minn., June 5, 1901.

One time last summer I got very sick with cholera and thought sure we would have to send for the doctor, but after taking 3 doses of Watkins' Vegetable Anodyne Liniment I felt as well as ever. Since then I use it every day and and find it the best family medicine in the market to-day; it is worth its weight in gold. JOSEPH DUCHARME.

Thousands of good people have written in the same vein.

FOR ANIMALS it cures colic, diarrhoea, sprains, cuts, scratches, bruises, sweeney, etc.

Don't wait until you are down sick, or injured by some bad accident, but be sure to get a bottle from our agent when he calls. If no agent in your county, write us at once and we will see that you are supplied. **Price $1.**

FREE! FREE! FREE!

We send our instructive 100-page finely illustrated Home Doctor and Cook Book to every inquirer free. It is a very valuable and interesting work for farm and home, containing weather forecasts, fine cooking recipes, etc. We send it free whether you are ready to buy now or not.

THE J. R. WATKINS MEDICAL CO., 10 Liberty St., Winona, Minn.

Please mention Bee Journal when writing.

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—FOR—
Bee-Supplies.

ROOT'S GOODS AT THEIR FACTORY PRICES.

Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand.
The freights from Cincinnati are the lowest.
Prompt service is what I practice. Satisfaction guaranteed.
Catalog mailed free—send for same.
The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.
You will save money by buying from me.

C. H. W. WEBER,

2145-2148 Central Ave., CINCINNATI, OHIO.
Successor to Chas. F. Muth & Son and A. Muth.

SPRAYING

with the "incomparable"
BORDEAUX NOZZLE
and our world's best outfit you are absolute master of the situation. Insects and disease fall before this all conquering outfit. See the book. It is free. Write for it now.
THE DEMING CO., SALEM, OHIO.
Western Agts., Henion & Hubbell, Chicago.

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$5 INCUBATORS FREE 50 EGG SIZE

Self regulating. Guaranteed for 2 years. Hatches every good egg. Send for catalogue No 63. Sell six and get one free.
INVINCIBLE HATCHER CO., • SPRINGFIELD, OHIO.

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NO COLLEGE EDUCATION

Write nearest office.

is needed to run the **Sure Hatch Incubator.** They are so simple that they run themselves. Made of California redwood, beautifully finished; twelve ounce copper tank, and hydro-safety lamp. Fully guaranteed. Our catalogue contains hundreds of photographs of the **Sure Hatch Incubator** at work, and valuable information. Sent free.

Sure Hatch Incubator Co., Clay Center, Neb., or Columbus, O.

Please mention Bee Journal when writing

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

IT ALL DEPENDS *upon getting started right* in the poultry business as in everything else. For the beginner, or the man who does not want to go in heavy, we have the

$5 Reliable *Juvenile Incubators and Brooders*

Equal in workmanship and result producing qualities to any of the larger machines. You'll want a copy of our **20th CENTURY POULTRY BOOK.** It is a hummer. Tells all about the 126 pens of thoroughbred poultry at the Reliable Poultry Farm, and how they are cared for. Sent anywhere for only 10 cents. Send at once before they are all gone.

RELIABLE INCUBATOR & BROODER CO., Box B-2, Quincy, Illinois.

as if we crazy people were hard task-makers. To please us, he gives all his time—can't even get a single day to go fishing. You may ask, Why? Simply because we expect so much for a little money. And so many appear to think that editing a bee-paper is fun, and can be done just because *they* read the paper but forget to send in their dollars."

"What is the 'Old Reliable?'" you will ask. It is the best bee-paper in the world, I think, if you will only take pains to see the other ones. These bee-papers are like Pat's whisky—none bad, but some better than others.

That Chicago bee-keepers' convention was worth going to see. You beginners will do well by attending some of them. I knew several of the bee-keepers from their pictures in the Bee Journal. They were a fine lot of people.

Dr. Miller must have had a cold, as he did considerable sneezing while seated at the piano. He is just as nice and clever out-of-doors as he is in the "Question and Answer Department."

Some things I learned last season. They were talking about bottom starters for sections. I tried them, but cut them too tall, so they lopped, and the bees fastened the comb to the separators. Hereafter, if I use them, I will cut them very low, say from a quarter to half an inch tall. It was said that 40 colonies of bees would carry off from five to ten gallons of water daily, when the heated spell was on; that our black bees outstripped the long-tongues.

Now, readers, what are we to do about that type-setting machine? It is up to all of us. Let's have it. J. P. BLUNK.

Webster Co., Iowa, Dec. 20.

[We hardly knew whether to let the above go in or not; but, after thinking it over, we decided that we'd have to let that Blunky Iowa man have his own way, or he'd Blunk at us later with some more of his Blunkety-Blunk stories.—EDITOR.]

Helpful Hints for Beginners.

On the night of Dec. 12 the mercury ran down below zero in just a few hours, with a cold northwest wind blowing a gale, accompanied with a light fall of snow. The succeeding night was also a zero night, the first zero weather that this locality has experienced this winter.

My experience in wintering bees out-of-doors in this locality is that they must be protected on the north and west by a high board fence, or with timber, or evergreens, or a hill. Such protection should be provided even if they are in chaff hives. I am confident that the north wind and snow and sleet driven against the hives does more damage than steady freezing weather, if the bees are not confined to the hives too long.

Apiculture is made up of many little details, and there is no other business known to the writer that will suffer as much from the neglect of little matters. What little attention bees do need must be given at the right time to be of any use to them. Though the work done by the bee-keeper may seem a very small matter, it amounts to a great deal to the bees.

You might as well try to run a locomotive without steam as to try to run an apiary without a bee-smoker. At times only a little smoke is needed. When handling bees most persons think that a bee-smoker can be dispensed with, and often go to the hive and open it up or pull off the cover. The consequences are, they have a mad lot of bees to contend with, stinging everything within their reach, when, if a little smoke had been used, all would have been well. I never go to a hive to open it without first lighting the smoker, although quite often it is not needed.

Every person owning two colonies of bees should subscribe for a good, live bee-paper (if he has not already done so), and also get a good text-book, and then study them thoroughly. The bees will increase as fast as your knowledge, and faster, in two good seasons.

All hives should rest near the ground, with a half brick under each corner of the hive. Then heavily-laden bees can reach the en-

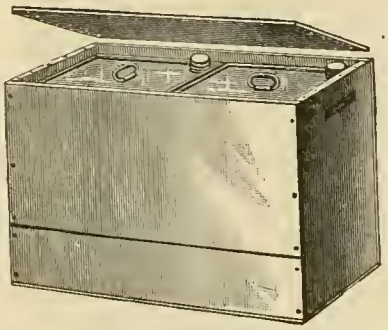
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two or more 60-pound cans of Alfalfa, 7½ cents per pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid.

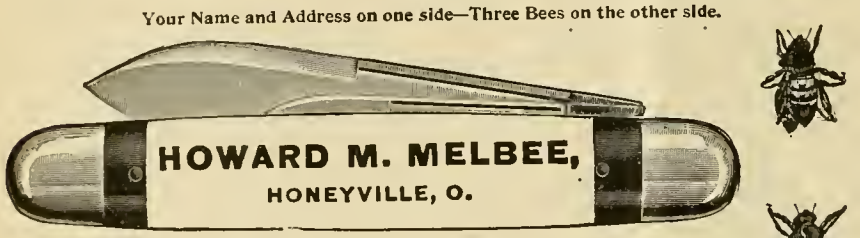
Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

trance without rising the second time. Many bees miss the alighting-board and have to rest before they are able to take wing the second time. This matter of having hives near the ground is a very important one, from the fact that many queens, in coming out with the new swarms, fall to the ground, disabled in some way, so they are unable to rise with the swarm with which they must get back into the hive again. Hence, a hive near the ground has a big advantage in this matter alone.

It is almost useless to inform a beginner in bee-keeping that it is quite an important matter to have his hives, section-boxes, frames and honey-supers all in readiness for the bees long before they are needed, at least before the bees get to swarming or the honey harvest comes on. From many years' experience in this line of work I find that the winter season is the proper time, and the most convenient, to do this work. If you haven't a good, warm place to work, and the proper tools to work with, you can not be a successful bee-keeper.

If you have new hives to make they should all be made, painted, and stacked away in some dry place. Or if you have a lot of old ones, fit them up and make all one size, and repaint them. I would not try new hives if I had a lot of old ones on hand to be fixed up. Supers should be made and filled with sections, but don't forget to put in separators if you want nice, straight comb honey: they are always needed. J. M. YOUNG.

Cass Co., Nebr., Dec. 14.

BEEDOM BOILED DOWN

Facilities for Moving Bees.

Referring to the remarks of Afterthinker Hasty, on page 745, in which he comments on Mr. Atchley's plan of moving bees, the Southland Queen says:

We do not think that Mr. Hasty fairly understood the matter he had under consideration when he wrote the above. In the first place, the shipping or moving cases are not so frail as he imagines, for the same have been used several years to transport colonies of bees a distance of about 500 miles; cases being sent up by express, and bees coming back by express also, and those cases are good for several years yet. We make these cases light, weighing but little over five pounds each, yet strong and well ventilated, and bees

MARILLA.

That's the name which means highest excellence in Incubators and Brooders—the most perfect regulation of temperature and moisture. Hot air or hot water. Send 4c for catalogue and guarantee. Your money back if you are not satisfied

MARILLA INCUBATOR CO.,
Box 3 Rose Hill, N. Y.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

PAGE

Page Fence is Good

for **bad** stock and not bad for **good** stock.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

suffer but little even during our hottest weather. We have wagons made especially for hauling bees, and no danger of horses getting stung. In fact, we have hauled several large colonies turned loose together in the "bee-wagon," caging queens before putting them in, and again dividing the bees at the point of destination. We can move about 100 large colonies to each wagon-load, and with two wagons an apiary of 200 colonies can be moved at one draught.

Feeder for Outdoor Feeding.

We make a trough or tank about 10 feet long and 18 inches wide of heavy zinc, and have a wooden box for it to sit in for protection. We make a float to fit inside the zinc trough by using strips of wood edgewise encased in a frame, the strips being $\frac{1}{4}$ of an inch apart. The feed is poured in through a funnel, and the float rises up and sinks down as food is taken. The bees can not fall into it. You will think at first that the feed-trough is not half large enough, but when the bees are down to work right, some coming, some going, and some loading, they do not seem to be in each other's way at all. The funnel is made fast, and under it is encased with wire-cloth, that the feed can be put in without the bees getting into it. From 1000 to 1500 pounds of feed can be given to 100 colonies in a single day, when bees are well started.—Southland Queen.

Ill-Advised Advice.

The Rocky Mountain Bee Journal refers to the remark of R. C. Aikin in the American Bee Journal, that "there is an epidemic of bee-fever in Colorado" as a true remark, and says:

The extraordinary demand for bees thus created has sent prices skyward, but this rather stimulates than deters investment in that kind of property. "What does six or seven dollars per colony amount to for an institution that will return 100 percent on the investment in a single season?"—they reason to themselves. We are informed that one party, entirely inexperienced, has bought 200 colonies, paying $7.00 per colony, and will undertake to run them alone next season. His nerve is certainly to be admired, but—it's too bad that he did not consult some bee-keeper friend, whose kindly advice would have saved him the vexation and loss that lies in the near-by future.

Recently some of the Denver dailies undertook to boom the bee-business by grossly exaggerating the profits to be derived from it, and advising all their country readers to engage in it as a swift and easy way to get rich. Very foolish advice, indeed, yes, even criminal, because if followed in the promiscuous manner in which it was given, great disappointment and loss would be the general result. To advice of this character (and volumes of it have been given) may be credited the "epidemic of bee-fever" that is sweeping over Colorado.

A Good Convention.

The Chicago convention, Dec. 5, 1901, was a great success, both as to interest and numbers in attendance. C. P. Dadant, W. L. Coggshall, and others brought it up nearly, if not quite, on a level with the old Northwestern conventions which were so popular. No reason why there should not be a Northwestern at Chicago every fall. Editor York is a capital presiding officer.—Stray Straw in Gleanings of Bee-Culture.

Size of Honey-House.

I presume you would want me to tell how much room I would want for a 200-colony apiary. Well, a 12x14 foot workroom, an 8x12 foot extracting-room or section-cleaning room, and a 12x30 foot storage-room.—Mr. Lytle, in the Rocky Mountain Bee Journal.

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

Has an Honest Look.

That's what people say about our box, and it's built that way. No imitation Cathedral. No Jack-in-the-box surprises. No rat-hole exploration to get your mail. Just the simplest style of weather-proof building-shed roof, wide projecting cornice and thick heavy walls. Isn't that the kind of structure you can rely on? Send for details. Bond Steel Post Co., Adrian, Mich.

Please mention Bee Journal when writing.

15 Volumes of the American Bee Journal for sale. All complete except a single week's copy missing. Address,

Daniel Wyss, New Philadelphia, Ohio

2A4t Please mention the Bee Journal.

FREE Our handsome GARDEN ANNUAL and SEED CATALOGUE. Send your address on a postal to-day, or for a 2c stamp and name of a neighbor who is an actual seed buyer. Catalog and and a packet of EARLIANA TOMATO earliest Tomato grown if sent before Mar. 20 Address **SEED**

COLE'S SEED STORE, PELLA, IOWA.

Please mention Bee Journal when writing.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

33Atf Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,

31Atf FAIRFIELD, ILL.

30 DAYS FREE TRIAL

Don't Take Chances

There is no better hatcher in the world than the Hawkeye Incubator. Three walls, copper pipe heating system, patent safety lamp and nursery. Our $10 proposition. Large size, on free trial. Write at once for free booklet, or send 10 cents for book and a leading poultry paper for one year.

Hawkeye Incubator Co. Dep 17, Newton, Ia.

Please mention Bee Journal when writing.

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Please mention Bee Journal when writing.

Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker

FOR 23 YEARS THE BEST ON EARTH.

25Atf T. F. BINGHAM, Farwell, Mich.

200-Egg Incubator for $12.80

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.

GEO. H. STAHL, Quincy, Ill.

45A26t Mention the American Bee Journal.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,

330 Market Street, - SAN FRANCISCO, CAL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 21.—The honey market is of a slow nature with little change in price of any of the grades. Choice grades of white comb honey, 14½@15c; good to No. 1, 13½@14c; light ambers, 12½@13c; dark grades, including buckwheat, 10@12c. Extracted, white, 5½@7c; amber, 5¼@5¼c; dark, 5@5¼c; the scale of prices varying according to flavor, body and package. Beeswax steady at 28c. R. A. BURNETT & CO.

NEW YORK, Dec. 19.—Comb honey continues to be in good demand, and while the market is not overstocked, arrivals of white honey are sufficiently large to meet the demand, while buckwheat is rather scarce. We quote: Fancy white, 15c; No. 1, 14c; No. 2, 12@13c; and buckwheat, from 10@12c. Extracted remains dull and inactive with plenty of supply of all kinds. In order to move round lots, it is even necessary to shade the quotations, which are: White, 6@6½c; amber, 5½@6c; dark, 5@5½c; Southern, 55@60c gallon, according to quality. Beeswax firm at 28c. HILDRETH & SEGELKEN.

BOSTON, Dec. 20.—The demand for honey is easing up, somewhat due in part to the holiday season at which time it is much neglected.

Our market at the present time runs 16c for strictly fancy in cartons; No. 1, 14@15c; No. 2, 12½@13c. Extracted, light amber, 7½@8¼c; amber, 7c. BLAKE, SCOTT & LEE.

DETROIT, Dec. 20.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Dec. 24.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—.

Market for best qualities of both comb and extracted is moderately firm at current rates, with no heavy stocks in this center of any description. The lower grades are not eagerly sought after, however, and offerings of this sort draw forth hardly any competitive bidding worth noting from either large or small buyers.

CONVENTION NOTICES.

Minnesota.—The Southern Minnesota Bee-Keepers' Association will hold its next annual convention in the County Commissioners' room at the Court House in Winona, Jan. 21 and 22. A good program has been arranged, and a large attendance is expected. All are invited.

E. B. HUFFMAN.

Wisconsin—The Wisconsin State Bee-Keepers' Association will hold its annual convention in the State Capitol, at Madison, Feb. 5 and 6, 1902. This promises to be a large convention. All are invited to attend. There will be excursion rates of 1⅓ fare for the round-trip, good for all of the first week in February.

N. E. FRANCE, Pres. ADA L. PICKARD, Sec.

California.—The California State Bee-Keepers' Association will hold its annual convention in the Chamber of Commerce, Los Angeles, Jan. 15 and 16, 1002. We will try to have a good program. Come and exchange your bright ideas with your neighbors, and get some of the moss rubbed off your back, J. F. McINTYRE, Sec.

G. S. STUBBLEFIELD, Pres.

New York.—The annual meeting of the New York State Association of Bee-Keepers' Societies will be held in the parlors of the Kirkwood Hotel, Geneva, N.Y., Wednesday, Feb. 5, 1902, commencing at 10 a.m. All interested in bee-culture are cordially invited to be present. Subjects of importance are to be brought before this meeting, and it is desired to have a large representation of bee-keepers in attendance.

C. B. HOWARD, Sec., Romulus, N. Y.

W. F. MARKS, Pres.

Bauscher's Stock Wins

ALL THE PRIZES. Never fails. We lead in quality and low prices. New mammoth Poultry Book and catalogue, worth $25, but sent postpaid for only 15c.

JOHN BAUSCHER, JR., BOX 94 FREEPORT, ILL.

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We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
Chicago, Ill.

BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES.

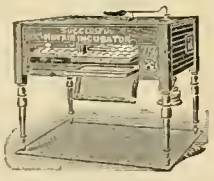
Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

Please mention Bee Journal when writing.

A Really Successful Incubator.—No incubators are better known, or are more widely popular than the SUCCESSFUL INCUBATORS, made by the Des Moines Incubator Company, of Des Moines, Iowa. The factory of this company is believed to be at least as large as that of any similar institution in the world.

A few years ago no incubator company would have dared to guarantee satisfaction on its products, but such an incubator as The Successful is no longer an experiment. The largest and most successful poultry farms hatch chickens by artificial incubation. Poultrymen find incubators necessary to the economical production of chicks on a large scale. Many of the best known breeders of poultry use the Successful Incubators and Brooders exclusively.



So large has the volume of business done by this Company in the East become, that a branch office and warehouse have been opened at Buffalo, from which the Successful Incubators and Brooders are shipped to customers in the Eastern States at a great saving of time and expense to the purchaser. Large quantities of these machines are also shipped to foreign countries.

Five different catalogs in five different languages are published by the Des Moines Incubator Company. They are all free except the catalog in English, for which a charge of four cents is made to cover postage. No more instructive book on poultry culture can be secured anywhere than one of these attractive catalogs.

The successful Incubators and the Successful Brooders have well earned their title: "Life Producers and Life Preservers." The company requests that all correspondence be addressed to the office nearest the writer.

24th Year **Dadant's Foundation.** 24th Year

We guarantee satisfaction. ✻✻

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✻✻

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

32d Annual —CATALOG OF— 91st Edition.

BEE-KEEPERS' SUPPLIES

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JANUARY 16, 1902.

FORTY-SECOND YEAR
No. 3.

WEEKLY

APIARY OF MR. FRED H. HUNT, OF JEFFERSON CO., COLO.—
(See page 36.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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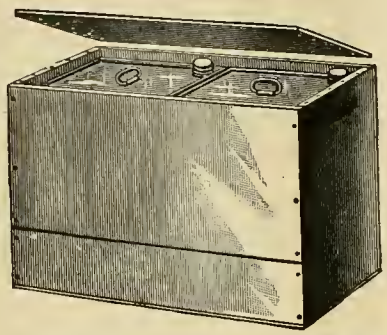
Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

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Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two or more 60-pound cans of Alfalfa, 7½ cents per pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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☞ Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JANUARY 16, 1902. No. 3.

Editorial.

The Lies About Honey are re-appearing in various forms in both newspapers and farm journals. Mr. Newton Bawn sends the following, which appeared lately in a department conducted by J. S. Trigg, of Rockford, Iowa, who is an agricultural writer of considerable prominence, and should know better than to "get off" such stuff:

"A cute machine manufactures the artificial comb and a swindler takes it and fills it with glucose honey, scattering here and there a dead bee on the comb, and the deluded purchaser eats it, associating it with apple-bloom, the fragrance of white clover and summer flowers, while the stuff is made of paraffine instead of beeswax for the comb, and glucose for the nlling."

If Mr. Trigg doesn't correct that paragraph *at once*, a good many thousand people will now know where he belongs. It is exceedingly unfortunate that any one should be willing to write a thing like that, and thus put himself down as—as—well there isn't a word of truth in the whole paragraph.

We have written Mr. Trigg, requesting him to publish "The Truth About Honey," in his paper. He should be only too anxious to get a statement like that, which appears over the names of responsible men.

Carbolineum.—A warning is sounded against the use of this material in hives, as it may affect the flavor of honey. It ought to be a fine preservative for bottom-boards, where it would perhaps not affect the honey.

Sweet Clover as Forage,—A short time ago Gleanings in Bee-Culture asked for reports as to whether stock would readily eat sweet clover. From Michigan, Ohio and Indiana come responses that say neither horses now cows will eat it unless starved to it. From New Mexico comes the report that horses and cows will eat it down as clean as if a mower had gone over it. M. S. Gosney reports as follows from Kentucky:

Last fall I sowed some five acres in timothy. The winter was hard, and, supposing I would have a light catch in February, I sowed sweet clover, got a fair stand, and more than half a stand of timothy. When the timothy seed was ripe and had begun to fall, the sweet clover was from 18 inches to 2 feet high. I turned in three horses which had never learned to eat sweet clover. After a few days I noticed they were eating the clover and leaving the other grasses, of which there was an abundance—not only timothy, but blue-grass and Bermuda grass; but they ate nothing but the clover until they got the last bit of it, and, owing to the extreme drouth, I fear the sweet clover will all be killed. My buggy-horse ate sweet-clover hay greedily the first time he ever saw any.

These reports are about as contradictory as usual. Sometimes two men in the same locality give opposite reports. The probable fact is that some stock have learned to eat it and some have not. One man writing to Gleanings seems to think there must be some sinister motive in the mind of any one who advocates that stock should be taught to eat sweet clover, saying:

"You certainly have had enough evidence, such as Mr. Zurburg's, to convince a jury or an honest man. Why should we wish our stock to learn to eat it?"

The testimony of a thousand men might be given that stock would not touch sweet clover, but if a single reliable man should testify that he had seen horses and cows eat it greedily, no honest jury would decide that sweet clover was worthless as forage. The time was when hard coal was considered worthless as fuel, because no one knew how to burn it; but when one man actually succeeded in burning it, his testimony that it was good for fuel outweighed all the negative testimony that could be piled up against it.

There are a good many people who know from personal observation that sweet clover has a value as a fodder-plant, and their number is constantly increasing.

The Sting of the Queen-Bee is thought by some to be of use in the act of egg-laying. B. Hamlin-Harris says in the British Bee Journal:

I have myself repeatedly seen the queen-bee, while actually laying eggs, work her sting up and down, as if by such an act the process were made easier. I think it is simply common-sense to suppose that such would be the case. But must we not seek an answer to our question from a different and more fundamental source?

The question is, What relationship exists between the sting and the egg-laying organs? Surely, they both belong to the same system, and bespeak the feminine sex. The sting is essentially a part of the female, and not the male. Would it be surprising, then, if one organ assisted the other, though, perhaps, in a very small degree?

Bees in Hot Countries are sometimes said to be lazy about storing after having learned in a tropical climate that they may depend upon the flowers for a continuous supply. In the British Bee Journal, A. C. Sewell writes from South Africa:

One has only to watch the hives to dispose of any charge of want of energy. I have seen them returning with pollen in the early dawn before sunrise, and in the evening, when it was so dark that I had to put up my hand before the entrance to feel them going in, and a colony will build up with great rapidity.

The constant breeding that goes on must also require a large quantity of honey that would otherwise go into the supers. There is no long period of rest in winter, but one finds up country, where the climate is colder, that the harvest is better, and it seems to me that in order to get good honey in quantity a winter sufficiently cold to dry up vegetation and produce a dormant condition is necessary.

Basswood Not a Success in Colorado seems to be the verdict, according to reports in the Rocky Mountain Bee Journal. The trees die down to the ground each season, and make no substantial growth.

Do Bees Get Honey from Corn?—A disenssion with regard to this is on in Australia. Hessel Hall, who says he secured, during the past season, between three and four tons of corn honey, is quoted in the Australian Bee-Bulletin as saying:

When the maize-fields are in bloom, if no other honey-flow is on, the whole apiary makes for the corn-tassels. At such times the bees roar and show signs of excitement over their work, such as they never show except when they are bringing in honey.

During the period of maize-bloom the bees working on maize bring in large quantities of dull, greenish-colored honey, mild and pleasant in flavor, candying speedily into soft, white crystals, rather brittle in the grain. This honey is not so glutinous as most honey, cuts differently in uncapping, and, when new, carries with it the odor of the maize-blooms.

"The Truth About Honey" is something that few people aside from actual bee-keepers know much about. It is unfortunate, too, both for the general public and the producers of honey.

Recently, the old lie about the manufacture of comb honey was revived, and it is again going the rounds of the press, greatly to the detriment of honey sales in certain localities. One of the greatest offenders lately was the Chicago Daily Tribune. And the worst of it was, that when this influential newspaper was requested to publish a refutation of its slander against honey, it gave only a few lines of truth, when it had used considerable space in which to tell what was not true.

In view of the many misrepresentations that are current, the Chicago Bee-Keepers' Association appointed a committee at its meeting in December, for the purpose of preparing a statement for the general newspaper press, that should aid in setting the reading public right on the honey question. Their report has been given out for publication to all the Chicago daily newspapers, and now it only remains to be seen whether they will

publish it, and thus desire to correct the errors which they have helped to circulate.

Wishing our readers to see the report of the committee referred to, we give herewith a copy of it, and would suggest that all endeavor to have it reprinted in their local newspapers. If any paper will publish this report, and desires to have the pictures also, we will, upon request from the publishers of any such paper, mail electrotypes of the engravings free, and also a printed proof or copy of the report. We offer this so that no bee-keeper need part with his own copy of the American Bee Journal.

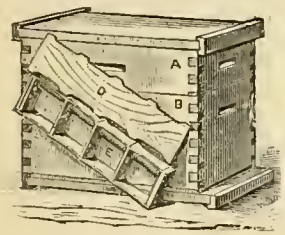
Here follows the committee's report:

The Truth About Honey.

A Committee of the Chicago Bee-Keepers' Association Corrects Some Popular Errors.

Some statements with regard to honey, which are very far from the truth, having been published, the Chicago Bee-Keepers' Association appointed the undersigned a committee to give to the public a statement of the exact truth with regard to the purity or impurity of honey as found upon the market.

Honey is not only an appetizer, it is an article of food of the highest value. Unlike sugar (which makes such a strong demand upon the digestive organs that it is a prime factor in the establishing of that terrible scourge, Bright's disease, and other diseases), honey lays no heavy burden upon any vital organ, and its use as a daily article of diet tends toward health and long life. Such being the case, it is of the first importance that the pure article should be obtained.

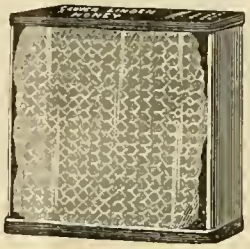


BEE-HIVE.

Honey is found upon the market in two forms: liquid, and in the comb. The liquid is obtained by throwing it out of the comb by means of centrifugal force, in a machine called a honey-extractor, in which the comb of honey is revolved so rapidly that the honey flies out of the comb somewhat as the mud flies from a wagon-wheel when the wheel revolves rapidly. When thus obtained it is called extracted honey, and may be found put up in tin or glass packages. It varies in color from water-white to almost black, the color depending upon the flowers from which the honey was obtained. Nearly all honey granulates upon the approach of cold weather, having somewhat the appearance of lard, and in this form it is preferred by some. It can be restored to the liquid form by heating it slowly, as too much heat spoils its delicate flavor.

It is not a hard matter to mix glucose with extracted honey, the mixture varying in character according to the quality of glucose used, the ordinary glucose of commerce containing matters unfit to enter any human stomach. Thanks to the efforts of the National Bee-Keepers' Association and the valuable aid of the Illinois Pure Food Commission, the operators in this vile work of adulteration have found Chicago no longer a safe field in which to operate, and it is now not a difficult thing to find pure extracted honey just as stored by the bees. Respectable grocers have no difficulty in offering you an article that they may warrant as pure, having on the label the name of some reliable producer or dealer.

Comb honey is that stored in waxen cells, the marvelous workmanship of the honey-bee. The statement that no pure comb honey can be found upon the market in Chicago, but that it is all "manufactured stuff made up of glucose and paraffine," could not possibly be farther from the truth. The simple truth is that *not a pound of comb honey that was not made by the bees is to be found in all Chicago.* There is not a pound of it in all the world, and never was. The Department of Agriculture at Washington, D.C., has also issued a statement that there is no such thing as manufactured comb honey.


COMB HONEY.

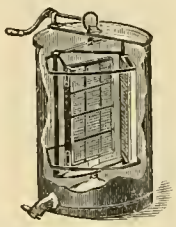
The following offer, made by a man of undoubted financial responsibility (and the undersigned are willing to add their own financial responsibility to his), bears upon the case:

"I will pay $1000 in cash to any person who will tell me where comb honey is manufactured (*i. e.*, filled and capped over) by machinery; or I will pay the sum to any one who will find machine-manufactured comb honey on the markets for sale."

That offer, made in all good faith, has been standing for years, but no one has claimed the $1000. The offer still stands, and if the mass of comb honey is manufactured it ought not to be a difficult matter to find a pound—just one little pound — of such manufactured honey through which to obtain that $1000.

The truth is, that when you find honey in the comb you may be absolutely certain that the bees, not man, put it there. It may vary in color, it may vary in quality; all flowers do not yield the same honey; but it was all stored by the bees.

It ought not to be a difficult matter for any one with the exercise of a little common sense to convince himself that there is no such thing as manufactured comb honey. Take any two samples and compare them. While they may look in general alike, it will be easy to see that there is so much difference in them (variations in the irregularities upon the surface and on the edges) as to show that they could not possibly have been made in the same mould. No two samples of comb honey exactly alike can be found in all Chicago. So they could not have been made by any machinery except that of the bee.


HONEY-EXTRACTOR

The statement, "Genuine honey has brown coloring around the cells; glucose honey is perfectly white," could only be made by one densely ignorant of honey. The truth is, that all honey-comb, when first made by the bees, is white as the whitest found on the market. If it is left in the care of the bees it becomes dark, and if left with them for several years it will become almost black. All of it would obtain the "brown coloring" simply by being left long enough on the hive. The white is more beautiful to the eye (no better to the taste), so it is taken from the hive generally before the bees have had time to darken it.

This is the truth about honey.

GEORGE W. YORK,
President Chicago Bee-Keepers' Association.
C. C. MILLER, M. D.
C. P. DADANT.

LATER.—A day or two after delivering a copy of the committee's report or statement to the Chicago Tribune, it was returned to us with the following note:

"The Editor of the Tribune regrets that he can not make use of the manuscript, which is respectfully returned herewith. This does not mean necessarily that the article is not meritorious, as on account of the large number of manuscripts received it is not possible to print all."

But little comment on this is necessary. The Tribune thus admits that it had room to publish lies about honey, but it has not the space to allow the truth to appear about it! We hope those of our readers who are so unfortunate as to read The Tribune, will let its editor know what they think of its way of doing things. It has plenty of space for liquor dealers' advertisements, sporting stuff, etc., but declines to correct its own misstatements that are of untold damage to an honest industry.

Washington as a Bee-Country.—A writer in Gleanings in Bee-Culture, who has kept bees in that State for six years, gives a charming picture of Washington west of the Cascade Mountains, where pretty much everything combines to make life worth the living—no hot weather, the average in summer being 70 degrees, seldom below 40 degrees in winter, no mosquitoes, flies or gnats, no snakes except garter-snakes, no wind-storms, no thunder nor lightning, etc.—and then comes this wet blanket:

"But he won't find this a very good bee-country, for the simple reason that the summers are entirely too cool."

Weekly Budget.

MR. FRED H. HUNT'S APIARY appears on the front page this week. He calls it "Wheatridge Apiary," and it contains 90 colonies. Mr. Hunt reports the last season as being not a very favorable one in his locality, the average surplus honey per colony being much below the normal.

MR. A. E. WILLCUTT, of Hampshire Co., Mass., writes as follows, in reference to "stone shade-boards:"

MR. EDITOR:—Please send word hastily, to our "hasty" friend "Hasty," to clear his throat for giving the three cheers mentioned on page 9. I will gladly send him a "sample dozen" of the "stone shade-boards" "by mail," if he will send the required postage. They will all be sent in the "flat," and each piece under separate cover; he can "nail them up" at his *leisure*. A. E. WILLCUTT.

MR. F. W. L. SLADEN, a prominent apiarian writer in Eggland, writing us Dec. 20, 1901, said, among other things:

MR. GEORGE W. YORK.—

Dear Sir:—I have only just got back to England from a three-months' trip amongst some of the prominent bee-keepers in the Eastern States and Canada. I very much regret I did not get as far as Chicago.....

I was very sorry I was not able to get over early enough to attend the National convention at Buffalo. However, all the American bee-keepers I called upon treated me splendidly, and I had a very good time indeed with them. Amongst those I called on were, Ernest R. Root, Frank Benton, Capt. Hetherington, G. M. Doolittle, W. F. Marks, and C. W. Post and Dr. Fletcher of Canada. I was also very glad to make the acquaintance of Mr. Ashmead, of the National Museum, Washington, D. C., who is deservedly held in very high esteem by the hymenopterists of this country.

Yours very truly,
F. W. L. SLADEN.

It was indeed unfortunate that Mr. Sladen could not be at the Buffalo convention; there he would have met many others that would have been pleased to meet him. He must come again, and remain longer.

Contributed Articles.

Wintering Bees—Indoor and Chaff Hives.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes me from the State of Illinois, saying: "I have kept bees for a number of years, but have lost from one-half to two-thirds each year in wintering. I have always wintered them outside. If I cannot devise a safe method of wintering I shall be compelled to go out of business. I desire to construct a special repository to hold about 100 colonies. Please give me some idea how to proceed—size, etc. Also kindly describe your method of indoor wintering, answering through the columns of the American Bee Journal."

I wish our correspondent had told us whether he used chaff hives, or those having only single walls, for, should it be that he has used only single-walled hives, then the best advice to give would be for him to try chaff-packed hives, for, in many localities in his State, chaff hives succeed fully as well as cellar-wintering, even in the extreme North, and it would seem that, even did he use chaff hives, there must be some

G. M. DOOLITTLE.

fault outside of the hives, which would cause a loss of from one-half to two-thirds of his colonies each winter.

An undue consumption of honey during the period of confinement, brought on by cold weather, seems to be the main cause of winter losses. When bees remain in that quiescent condition, which is required for safe wintering, a pound of honey a month suffices the whole colony, and in such a condition a colony could pass six months of confinement with ease. But if the same colony becomes uneasy from their confinement, these same bees will eat from five to seven pounds a month, and soil their hives and themselves so as to cause their loss in from six weeks to two months from the time they commence to eat so voraciously.

The chaff hive tends to keep the bees in the required quiescent condition, as thereby the bees are surrounded by porous walls, which carry off the moisture passing from the bees' bodies, also retaining the warmth generated by themselves, thus keeping the interior of the hive at a more uniform temperature than is possible without the chaff packing, this lessening the consumption of honey, and enabling them the better to throw off the larger part of the moisture contained in their food so that their bodies can contain the rest till the weather shall become sufficiently warm for them to fly.

In all locations where a chance to fly is likely to occur as often as once in from three to five weeks, I doubt about there being any better mode of wintering than by using chaff-packed hives. But where winter holds sway for from three to five months, with seldom, if ever, a day occurring that is warm enough for the bees to get out on the wing to relieve themselves from the accumulation necessary, through a constant taking in of honey (as fuel) to maintain the warmth necessary even in chaff hives, then it is best to provide them with a better protection than these chaff hives can afford. And, so far as is now known, cellar (or indoor) wintering, gives the best protection for the bees that there is under such circumstances.

To be sure, the chaff hives have a seeming advantage over cellar wintering, in that the bees are allowed to fly if an opportunity permits during winter, but this is offset by a more uniform temperature, and a consequent decrease in the consumption of stores in the cellar, where the bees need but little food to keep up the necessary warmth they require during the period of partial inactivity which winter compels them to pass through.

From all of my experiences in the past, I would not advise wintering in any special repository constructed above ground, as these are dependent upon the warmth created by the bees for their value, and experience has proven that a number of colonies do not seem to be able to keep up the uniform temperature required in any building atove ground, as well as each would do singly in chaff hives. Hence, nearly all now agree, that, where it is advisable to use a special repository at all, said repository should be in the shape of a cellar partially or wholly underground, the latter being always preferable, from the fact that the temperature of the earth, at a depth of five or six feet, is very near the one being right for the safe wintering of bees where they must be confined for four or five months.

A good cellar under a dwelling usually answers the purpose required, and where it is large enough so that a part of the same can be partitioned off for the bees, making the partition, and the floor above, double-walled, the space between the walls being packed with corkdust, chaff or sawdust, (the former excelling anything else where it can be procured), there is little need of looking further for a good place to winter bees. If we do not have such a cellar under our dwelling, and our winters are too severe for bees in chaff-packed hives standing out, then it would be well to build a cellar entirely underground, if possible. And with a rise of ground near the apiary, or having a small hill or mountain near at hand, the possibility is right at hand, as the cellar can soon be "hewn out of the mountain" with a shovel and pickaxe. And the further back in the ground you go the more even temperature can be secured, and the more even the temperature, the better the bees will winter, provided that temperature is somewhere between 42 and 50 degrees above zero.

The entrance to this cellar should be protected by three or four doors, so that the dead-air space between the doors will serve to keep the cold from the outside from passing in too rapidly.

And the above, or last described, is just such a place as I have used for wintering bees during the past 25 years. As to size, allow 10 cubic feet to the hive, the cellar being 6½ feet deep. As to how the inside should be fixed, when to put the bees in, and when to take them out, etc., almost any of the bee-books will tell, to which all interested are referred.

Onondaga Co., N. Y.

Triangular Wooden Comb-Guide—The Original Inventor.

BY M. M. BALDRIDGE.

On page 5 I find the following statement: James La Barre, of Kentucky, "a bee-keeper of extremely keen observation, and one of many practical ideas," but, "he reads little from choice." "It is not generally known that it was he who first conceived the idea of a V-shaped top-bar as a comb-guide. Early in the '60's he accidentally noticed that the bees in a box-hive in building their first comb extended it along a strip of wood which had been nailed on the inside of the box to cover a crack. Quick to see the point, he applied V shaped strips where HE wanted the comb built, and the bees, true to their nature, used these as starting-points."

"In 1877, while visiting the late Chas. F. Muth, he mentioned the matter and asked him to apply the V-shaped bar to the Langstroth hives manufactured under his supervision. It was done, and afterward the V top-bar became a fixed feature of the Langstroth hive. Several have claimed this invention, but Mr. La Barre, being indifferent as to who reaps the benefit of his bee-knowledge, remained quiet, and let them fight it out among themselves."

The foregoing must be a surprise to many pioneers who used the Langstroth hives prior to the year 1860. The writer became acquainted with this hive in the year 1857, and began using it quite extensively in western New York in the spring of 1858, and he does not now remember the time when the V-shaped wooden guide was not used therein. As Mr. La Barre "reads little from choice," this may explain why he now claims to be the original inventor or discoverer of the triangular or V-shaped wooden guide. If he had been a reader of "The Hive and Honey-Bee," by Father Langstroth, prior to

1860, he would have found therein several references and illustrations in the 2d edition, published in 1857, of the triangular or V-shaped wooden guide he now claims as his invention in 1860 or thereafter.

As before stated, the writer first met the Langstroth hive in 1857, and this was at the apiary of the late Moses Quinby. Mr. Quinby had about 90 of these hives in use in his apiary at that time. He took pains to show and explain this hive in detail to me. I don't now distinctly recollect about seeing the triangular guide in the hive at the time, but I believe it was in use that year in all his hives. Later on, and during that year, I found the Langstroth hives on exhibition in Buffalo, and at the New York State Fair. The man who was exhibiting this hive was R. C. Otis, whose home was then near Kenosha, Wis. Mr. Otis had a colony of bees in the Langstroth hives and was handling and exhibiting the same to the visitors at the fair. He had also empty Langstroth hives on exhibition there, and my recollection is that they were all supplied with the V-shaped top-bars.

The following spring Mr. Otis made my father and me a visit at our apiary in Niagara Co., N. Y., five miles north of Middleport. My father bought the county right to manufacture and sell the Langstroth hive in Niagara county in the spring of 1858, and he had 200 new hives made that year in Lockport for our own use, and to sell to others, and I *know* that all the hives made that year were supplied with the V guide in the top part of the brood-frames.

So much for history. Kane Co., Ill.

[Almost the next mail after getting the foregoing from Mr. Baldridge, we received the following from Mr. C. P. Dadant on the same subject:—EDITOR.]

ORIGINATOR OF THE V TOP-BAR.

Permit me to rise for a correction to an article published on page 5, by John R. Schmidt, as to the originator of the V top-bar. This gentleman says that Mr. James La Barre was the first man to conceive the idea of a V top-bar as comb-guide, and states that this discovery was made in the '60's. It is a matter of small consequence, practically, as to the first originator of the idea, but historically I believe we should know the truth of any claim. I believe the idea may have been original with the gentleman named at the date stated, but he was not the originator of the first V top-bar, for this was used by L. L. Langstroth in the '50's, and not only is this mentioned in his book, edition of 1857, but a picture of the frames with triangular bars at the sides as well as at the top is included among the plates, and a special description is made of the triangular piece.

On page 196 of the same work are found the following words:

"The great point to be gained is to secure a single comb on each frame. This I have effected after many experiments, and the device may be applied to any hive so that expense of a few cents will always secure straight combs."

This invention of the triangular bar seems to have been one of the points or features of the Langstroth patent, which cost its owner so much trouble and brought him so little reward, though the invention was revolutionizing the culture of bees.

Not only was the triangular top-bar a feature of the Langstroth hive 20 years before the time, when, as reported by Mr. Schmidt, this idea is said to have been suggested to Chas. F. Muth by Mr. La Barre, but at that same date—i.e., in the edition of 1857—a description is given and a cut, Plate III, Fig. 10, of a guage for cutting these triangular top-bars on a power circular saw-table. So, granting that Mr. LaBarre may have suggested the idea to Mr. Muth, who suggested it in turn to Mr. Langstroth, (which is much to be doubted), there is an error of more than 20 years in the dates. I trace this to 1857, but if I had the first edition of the book in my hands, I firmly believe I could trace it at least five years further back.

The triangular top-bar is not an absolutely safe guide, but it answers in most cases. A very important point is to have the frames at proper distances from center to center. Although the bees themselves make slight variations, their combs are never closer together than 1⅜ inches. If the frames are placed too close to each other the bees may build the first comb right, but the next will be thrown out of the center of the bar, and, the regularity being broken, they may jump from one frame to another and curve their combs into all sorts of shapes, after they have once departed from the straight course.

Brood-combs are built with great regularity, as a certain space is needed in which to hatch the brood—a greater distance than that absolutely indispensable being apt to make their combs too difficult to keep warm. On the honey-combs, however, they show much less regard for correct measurements, and, especially at the end of a season, they will readily lengthen out the cells of the outside combs to a very disproportionate size.

Thus, if we use only the triangular comb-guide to secure straight combs in the frames, we must be very careful to keep proper distances. We have always been inclined to give the bees ample room, and, for this reason, we follow Quinby in his method of putting the frames 1⅝ inches apart from center to center.

While ransacking our bee-books for information on the subject, I see that Bevan, in his book on the honey-bee, dated 1838, recommended putting the "bars" closer together in the center of the hive than at the outside. He had evidently noticed what I mention here, that the brood-combs needed to be closer together than the honey-combs, and for that reason found it advisable to place the latter at a greater distance from each other. He made his bars 1⅛ inches in width, and placed the center ones seven-sixteenths of an inch apart, while the outside ones were placed nine-sixteenths from each other. This made the distance one and nine-sixteenths from center to center on the brood-combs, and one and eleven-sixteenths on the storing-combs. This distance seems too great, and it is doubtful that there could be much regularity in combs built on those bars; but, at that time, the movable idea had not yet taken hold of the bee-keeping world, and the men of that day had not the remotest idea of the great steps that would be made in the next 60 years.

Debeauvoys, who had evidently forseen the results that might be achieved with a hive that could be taken to pieces without injuring the combs, had made a failure of his discovery because he had left out the anti-propolizing idea—the prize feature of the Langstroth invention.

Before the invention of the wax sheet stamped with the imprint of the cells, which later gave rise to the modern comb foundation, Mehring had devised a stamp to be used on the underside of a flat top-bar which made an impression of the outline of the comb. This impression, aftwards filled with beeswax, was said to succeed well, but was soon superseded by what was known as a *comb-guide*, made of a thin strip of melted beeswax on the underside of the frame. The latest method is a narrow strip of foundation wedged into a groove on the under side of the top-bar. This is the surest of all guides, barring a full sheet of comb or of foundation. But the triangular top-bar, which makes the subject of this article, is still used in many hives, and will probably be used as long as apiarists want a cheap comb-guide.

Hancock Co., Ill. C. P. DADANT.

A Case of Bee-Fever—He "Had It Bad."

I have been a subscriber to the American Bee Journal for the past two years, and very little could I do without it. I find it a great help to me at every turn. I commenced to keep bees about five years ago, and have had all kinds of luck since then with them—good, bad, and indifferent. They were at all times a source of amusement to me, if not one of profit, having honey to sell but once in all that time (1901). But a sweet time it has been at the table all that time. Honey, honey, honey, three times a day, and sometimes oftener. Oh, no, not from surplus, dead colonies being the most frequent source of supply, until the last season.

My first start was made by trading poor debts for poor bees. In this way I got three colonies, which were neither a pleasure to the sight nor a profit to me, but they nevertheless gave me a "swell" time, while they lived, and a sweet one after they died. No Irishman ever had a longer or finer wake. We feasted them, at their expense, all winter and well into the spring.

The next year I had better luck, trading bad debts for better bees, getting three colonies this time, which built up strong for winter, but no surplus yet. One of these died during the winter, leaving a hive full of honey. I also captured an Italian swarm, in the timber, late in July, which, although a poor year, filled a ten-frame hive—for themselves—before frost. This strain of bees I still have, and they have never failed to yield me excess honey, except the first year.

Up to this time I had only a mild case of "bee-fever," but the next spring, with the return of warm days, the symptoms became more pronounced, and I developed the itch (to be a shining light in beedom, by some discovery or invention—a dangerous symptom, financally), which, I understand, is very apt to develop early in the disease. I had already subscribed for the "Old Reliable," and got "ABC of Bee-Culture." That was

my undoing, and, incidentally, rather hard on the bees. The fever raged higher and higher: I became delirious; visions of golden queens floated before my eyes. I began to believe the advertisements of the queen-rearers, even so far as to send my good money to them. I divided and subdivided, Italianized and Carniolanized, formed nuclei and reared queens. Bee-ideas chased bee-ideas, up one side of my brain and down the other, most of them too large to get out the natural openings for ideas, except so misshapen as to be unrecognizable. Smoking became a fixed habit with me: I would not introduce my friends without first smoking them, for fear they would quarrel; nor open a conversation without it, dreading being stung (by a sharp tongue). In fact, I had smoker with me constantly—if not a bee smoker, a pipe, cigar, or cigarette.

I was also afflicted with hives, as the season advanced. The Dadant, the Danzenbaker, the Heddon, the Langstroth, the chaff and the Simplicity, and others that were not so simple—the six, eight and ten or more frame, deep and shallow, box, barn and palace, swarming and non-swarming hives, in endless procession, until I developed repeated attacks of urticaria. Things went on in this way, getting worse and worse. Ideas of single, double, quadruple, sextuple, etc., had their turn, until I must have a bee-house large enough to hold all my colonies. Having a small building not in use, I finally finished, after much study and expending some money, a model bee-house with accommodations for 14 colonies. I moved my bees in, not without some objections from the bees, however, which did not seem to appreciate the efforts I was making to convert them from their primitive ways of secreting themselves in any old place, to the more enlightened ways of domesticity, and with the same degree of bigotry, shown by some heathen tribes, to civilization, fought to (with) the bitter end.

I moved 12 colonies to their new home, and at first everything went along swimmingly, but winter came, and it got too cold to swim, or something else happened; at any rate, they began to die a slow and lingering death. First one colony died; we used what honey they had left. Then another would, by that time, become sufficiently ripened by death to be fit for table use. Death, the grim destroyer, continued to wreak vengeance until the gentle zephyrs of spring came, when, on examination, I found I had but one colony to occupy my fourteen-room bee-house, and they were showing signs of lonesomeness.

Strange to say, with the death of the bees, the fever began to abate, until it was almost gone, and I am convinced that if the last colony had died the disease would have been cured. But, with the return of spring, the symptoms began to get worse, and I passed though all the stages again, with but little better results than before, from a honey standpoint. I increased to twelve colonies again by fall, four of which I managed to pull through in spite of the bee-house. About this time, I might say that a house fell on me, and I took a tumble, that, perhaps, the bees did not want to be domesticated to the extent of living in an improved flat. So, early in the spring, I moved them back into hives (the four which were left), and they showed their appreciation by producing 380 pounds of comb honey, and increasing to twelve colonies once more.

The disease has subsided into a chronic condition, which I have been told is incurable, and is subject to relapses each spring, until death relieves, not only the sufferer, but also those afflicted with the sufferer.

The history of this disease dates back into the earliest times of which we have any writings, and, as far as I can find out, it has never received sufficient recognition to have a scientific name given to it. A careful study of the disease will show that all symptoms lead to irritation of the bees, and, as irritation, unless relieved, always leads to inflammation, I would suggest a combination of the two words apis (bee) and itis (inflammation), which would make the word ap-is-i-tis to be the scientific name of "bee-fever." This may not be scientifically correct but it would elicit sympathy for a sufferer of the disease where it now provokes mirth.

Thanking you for your kind indulgence, in listening to the plaintive lamentations of an apisletic,

I am, yours, etc., C. M. B.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Convention Proceedings.

Report of the Ontario Bee-Keepers' Convention, Held at Woodstock, Dec. 3, 4 and 5, 1901.

REPORTED BY R. F. HOLTERMANN.

The annual meeting of the above association began Dec. 3, at 2:30 p.m. Members of the association had been gathering during the early part of the day and spending their time in discussing subjects of interest to themselves. Pres. Newton opened the meeting by calling upon Mr. Craig to lead in prayer. The minutes were read by Secretary Couse, and at the close a committee was formed to investigate an omission of names of the officers of the Ontario Bee-Keepers' Association during the joint meeting of the International and Ontario, in Toronto, at which time R. McKnight was president.

President Newton's Address.

Ladies and Gentlemen:—It is with pleasure that we meet again in convention. Another year has passed, and we are here to talk over the past and make plans for the future. The first of the new century has been very profitable to most bee-keepers, not only by the good flow of honey but by the good prices which have been obtained for our product. In fact, I may well say that we have to-day as good prices as we had ten or twelve years ago. Surely, this is encouraging. The quality, as far as I have been able to judge, has been extra-good.

Now as to our expectations for next year's crop: Bees in most parts have gone into winter quarters with good, ripened stores, which means much towards good wintering: and the roadsides are massed with white clover, and judging from this we may well look for a big crop in 1902. I doubt not, the most, if not all of you, have come here with the hope and expectation that this would be one of the most enjoyable and profitable meetings ever held by our Association. To make this a veritable reality can best be accomplished by each one taking part in the discussion, and so contributing his or her portion of information for the general good.

It was with deep regret that we learned the news of the sudden death of our ex-president, Dr. Thom, who held the position of president in the year 1884, and was much esteemed by all members of the Association. But these calls are but warnings to each of us that some day we, too, shall be called hence to our reward.

It will be remembered that at our last annual meeting a motion was passed to the effect that the Association deem it advisable to make an exhibit at the Pan-American. The matter was brought before the Ontario Government, and they decided to help us. At our executive meeting in May it was my pleasure to be appointed to go to Buffalo to install the exhibit. We made a generous call to bee-keepers of the Association to help us. We succeeded in getting a good supply of extracted honey, but not a great deal of comb. However, the extracted and comb were of a very fine quality. Our display was not large, but was greatly admired by all visitors. I may note a few remarks gathered by passers-by and entered in my register book:

"Canadian honey—what part? Ontario. Ontario is all right." "Magnificent exhibit." "Very artistic exhibit, and very clear honey." "Grand honey and beautiful exhibit; I'm glad I came upstairs to see it." "O, look at the purified honey! Isn't it fine? It's a very pretty show-up, ain't it?" "O isn't it fine? The Canadians may be slow, but they know how to put up a honey exhibit." There were only 21 exhibitors in all for the judging of awards. We were awarded the Gold Medal for the collective exhibit of honey, and 33 diplomas of honorable mention for our exhibit. I have to thank the members who so willingly aided us in making Canadian honey famous at the Buffalo Pan-American.

While at Buffalo I had the pleasure of attending two sessions of the National Bee-Keepers' Association, which so kindly extended an invitation to our society. I was pleased to see so many Canadian bee-keepers present, and enjoying the meeting. Every one reported a profitable convention.

During this year, also, Canadian honey has been represented at Glasgow, Scotland, being taken from the exhibit which was at Paris, in 1901; but I have been unable to find out what awards were given.

One of the questions at our last meeting was. Would it pay us to exhibit at Buffalo, knowing we had a duty of one and two-third cents per pound to pay to gain a market in the United States? I feel safe in answering it now, that I believe it has paid our Association. First, by showing the world that we can produce a very fine quality of honey in Canada—in fact, second to none; and that we as Canadian bee-keepers take a pride in our pursuit to put our honey tastefully on the market. I believe if we push for a market in the United States, even by paying the duty, we shall gain it, because American people seem to realize that Canadian laws are far more strict than their own. Our pure-honey bill is all right: let each member of our society try to enforce it, and by doing so we shall make a market for our product.

It will be laid before you for your consideration, the advisability of making stronger the bill which we now have in regard to spraying of fruit-trees while in bloom. We all know it is a serious question in some parts of the country to bee-keepers: let us all put our shoulders to the wheel and try what can be done.

The inspector of apiaries, so far as I have been able to learn, has been attending to the duties of his department in a manner which I trust will be satisfactory to all. His report will, however, be submitted for your consideration. My attendance at the exhibit at Buffalo, and meeting with the many bee-keepers of Ontario who do not belong to any bee-keepers' association at all, has brought me to think that they do not realize the advantages given to the members of the Ontario Bee-Keepers' Association. I would strongly advise that a small pamphlet be published setting forth the workings of our society and its advantage to bee-keepers, and have a copy placed in the hands of every bee-keeper in this land.

The matter of forming a guild, or exchange, will be brought to your notice by Mr. Andrew Pattullo, M. P. for North Oxford, who has so kindly consented to take that subject for the basis of a few remarks to us.

In conclusion, I thank you for the confidence reposed in me a year ago in placing me in the position I now occupy. I trust you will all assist in making these meetings pleasant and profitable to each one of us, for in union alone there is strength.

JOHN NEWTON.

J. D. Evans, in reply to the President's Address, said he was at a disadvantage, not knowing what was about to be said. He wanted to praise Mr. Newton for the excellent and responsible work he had done this year, as president, especially in connection with the Pan-American Exhibition; he had managed to do the thing economically. He thought it would be an advantage to make the law in connection with spraying more stringent. In his own district he had no trouble—the people were anxious to have bees about them. They found it an advantage in fruit setting; even this year they had apples when others had none. More educating should be done, *and plenty of it.* Doctor Fletcher's address in connection with the value of bees to the fruit-grower had been circulated, and more work in such directions was desirable.

Rev. W. F. Clarke congratulated the president upon his good work; he was pleased to hear of the success of the exhibit at the Pan-American. If Canadians would do justice to themselves they would hold their own with any country.

A resolution of congratulation and thanks was passed to Mr. Newton.

Mr. Newton said he forgot in his address to mention that the thanks of the association were due to Mr. Miller for supplying glass packages to help make the Pan-American exhibit attractive. A vote of thanks was then tendered Mr. Miller.

FOUL BROOD.

Prof. F. C. Harrison, bacteriologist, who has recently returned from a year or more of study at the leading bacteriological institute in Europe, gave the result of his work during the past season with foul brood. He stated that the work undertaken with foul brood at the Ontario Agricultural College during the past year has been rather limited. The only thing attempted this year was some means of destroying germs of foul brood in combs. One remedy had met with good success; that was, disinfecting combs and hives with the vapor of formalin. Pieces of comb had been taken containing wax and comb several years old, dead brood, capped brood, and cells of honey into which had been put foul-brood germs. These were placed in a box the size of the ordinary hive, the lower entrance in the box having been plugged, leaving only sufficient room for the entrance of a rubber hose coming from the disinfecting apparatus, similar to that for disinfecting plants, etc. The formalin gas apparatus was as follows:

An alcohol lamp, and upon it a reservoir with a 40-degree solution of formalin. When the alcohol lamp was lighted the gas was soon generated. At the top of the box a one-half inch opening had been left; out of this the atmosphere passed as the box filled with formalin gas. When the box was full the gas would pass out of the upper orifice, detected by the odor. The apparatus was then withdrawn, both openings plugged, and the comb left under the influence of the gas for one hour, after which exposure no growth was obtained, four tests in all having been made. The honey-cells known to be affected gave no growth. The pressure obtained in generating the gas might in a measure account for the results. This cure would be practical in a large apiary. Other appliances used in disinfecting would answer.

Prof. Harrison also mentioned that some years ago he had taken a lot of cells or spores and placed them on glass in semi-darkness. He had tested them about every six months and had made a test very recently. Although where the cells had been placed nearly four years ago and exposed as per above, the last test showed they were still alive, showing that the spores were extremely resistant. In conclusion, Prof. Harrison said he hoped that the method of disinfecting he had given would be tested during the coming season.

Mr. Evans—I believe that this is one of the most important statements yet made in connection with foul brood.

Mr. Hall—Are the capped cells you mentioned, capped larvæ, or capped honey?

Prof. Harrison—Capped larvæ.

F. A. Gemmill—I think that the method given should be tested, and, if found better than the present, adopted.

Mr. Hall—We often have doubts about the surplus combs on infected hives, and other combs; these could be disinfected in the method given. I am very glad to hear the report.

J. K. Darling—How about bees and brood?

Prof. Harrison—Any in the box would, of course, suffer the same fate as the germs.

Mr. Evans—Would it not be well to shake the bees off the combs, then treat the combs and return the bees? An experiment in this direction might be tried.

R. H. Smith—Does the treatment make the combs objectionable to the bees?

Prof. Harrison—It does not injure the most delicate fabric.

Mr. Smith—Will the bees, if there are any dry scales, remove them from the base of the cells?

Mr. Gemmill—Do you think, if the scales were dry, they would be disinfected in the scales?

Prof. Harrison—Those I tested were moist, and it would doubtless be better to moisten them.

A. Laing—Why not turn the bees back to the combs, and after ten days repeat the operation? The bees would then be practically clear?

Prof. Harrison—As long as I fed carbolic acid, although growing millions of spores, no foul brood could be produced; but as soon as I left off feeding, foul brood developed.

Mr. Holtermann—It would not do to return the bees to the combs, and after ten days repeat the operation, because the bees, when disturbed, take up perhaps infected honey and return this to the comb, and there is no guarantee that they may not repeat this operation the second time.

A Member—What about McEvoy's method?

Mr. Holtermann—The combs are taken away, and the bees cannot store the infected honey in cells. I am afraid that bee-keepers, in their attitude, are rather inclined to despise scientific help and investigation—not in words, perhaps, as much as in attitude. Remedies and results are given such as this, and yet bee-keepers go on just as before.

W. F. Clarke—No wonder bee-keepers despise science when the inspector has drilled into them to despise science, and they are taught to hold to the theory of spontaneous generation, which no scientist to day holds.

Mr. Clarke read the Cheshire remedy, and wanted to know why this remedy had been ignored on this side of the Atlantic. Was it national jealousy, personal feeling, or what?

Prof. Harrison said if we will read Bulletin No. 12, issued by the Ontario Agricultural College, we will find considerable work has been done in this investigation. Carbolic acid will not destroy the germ; 2 percent solution will not destroy the germ in six days; 1 in 500 will prevent the germination of spores. The carbolic acid, in the strength mentioned by Mr. Cheshire, will not kill the spores, but may prevent their growth. Formic acid has a much greater value in disinfecting. Some honeys have more formic acid than others: buckwheat has almost twice that of clover honey. Bee-keepers had even noticed the sting more severe when the bees worked on buckwheat honey. He (Mr. Harrison) had spent several weeks with Mr. Bertrand, in Switzerland; he had also studied the disease in Austria. In those countries they had a race of bees which had a natural immunity from foul brood: for this

reason, he believed, the bees here, not being immune, the remedies which were a success in Europe were not such in this country—the bees were not immune to the same extent.

Mr. Clarke—Is phenol and carbolic acid the same thing?

Prof. Harrison—Yes.

Mr. Clark—Was 1 to 500 not a success?

Prof. Harrison—Only as an antiseptic; not to destroy the germs.

Mr. Holtermann—I would like to ask another question: Under what conditions does the germ grow again, which has been treated with carbolic acid 1 to 500?

Mr. Harrison—When you cease feeding. As long as you feed it is all right. The bees object to carbolic acid; formic acid is Nature's remedy. I may say we are always pleased to conduct at the College investigations along this and other lines. With the strength of staff we have we cannot conduct experiments for individuals, but where for public good, we will be pleased to carry on investigations. You help us by sending material, and we will help you with our appliances, and perhaps increase knowledge.

J. E. Frith—Have you been working on foul-brood experiments just for one year?

Prof. Harrison—No, for four years.

PICKLED BROOD—OTHER MATTERS.

The question of pickled brood was brought up, and it was thought well that the disease in New York State be investigated.

It was decided that samples be sent to Prof. Harrison, Ontario Agricultural College, Guelph, Ont., Canada, who promised to investigate them.

Wm. McEvoy, inspector of apiaries, suggested that bees be sent to Mr. Harrison to measure the length of their tongues.

J. B. Hall welcomed the Ontario Bee-Keepers' Association on behalf of the Oxford Association; he spoke of the incorporation of the Ontario Bee-Keepers' Association, the Colonial and Indian Exhibition, the Foul Brood Law, and eulogized Mr. McEvoy and the work he had done. Another important work was the Spraying Act passed through the instrumentality of the Association; then the Pure Honey Bill. The Chicago Exhibit, and that at the Pan-American, were also a success, and had done much to educate the local public and other nations as to Ontario honey.

The president called on Mr. Evans to reply, who responded thus:

"I am very glad to come to Woodstock; I knew the Ontario could teach the Oxford Association nothing, but we expect to learn a great deal from the Oxford [laughter]. We are quite ready to accept all the good things Mr. Hall has said of the Ontario Association. I think much has been done, but the end is not yet."

(Continued next week.)

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Dividing, or Artificial Increase.

What is your plan for artificial increase? I don't want any natural swarms—I can't manage them—and my family are too afraid of them to give me much help. EAST.

ANSWERS.—If you had asked for *a* plan I might have answered you readily, but when you ask for *my* plan you make the question more difficult. I have no plans of my own, and do not always follow the same plan, taking just what seems to be the most convenient at the time. Probably the nucleus plan is followed more than any other. A nucleus is formed and a ripe queen-cell given to it, and then when the queen gets to laying, it is strengthened by means of a frame of sealed brood. If the nucleus be started sufficiently early, no aid will be needed to have it built up sufficiently strong for winter.

If you will take the trouble to send the question on a postal towards the last of May, I shall be glad to go more into detail, and advise you just what to do to start your cells and form your nuclei.

Transferring Paper Trimmings for Packing.

1. In the Heddon short method of transferring, what would you do about the queen that will be reared in the old hive while waiting 21 days for all the brood to hatch? According to my count, a new queen will be hatched, and have quite a little brood, before the 21 days expire.

2. How will paper trimmings from a book-bindery do for packing bees for winter? ILLINOIS.

ANSWERS.—1. The bees will take care of that matter to suit themselves. If the old queen is yet in full vigor, the young queen will likely be destroyed, otherwise she may be superseded by the young queen when the two parts are united. If you wish to save both queens, of course you can interfere.

2. I can only guess. I should think there would be danger of their being packed a little too solid; but if sufficient pains were taken to loosen them up they might be all right.

Feeding a Mixture of Sugar and Honey.

I have a colony of bees in a box-hive, given to me by a neighbor, and it is short of stores. There is no way to get to them from the top of the hive, and I have been wondering if I could not carry them into the house-cellar, where the thermometer registers about 40 degrees, turn the hive bottom-side up, and lay upon the lower end of the combs a roll of sugar and extracted honey (mixed), leaving the hives in this position until spring. NEW YORK.

ANSWER.—Your scheme ought to work all right, only it would likely be better if the cellar were nearer 45 degrees. There is some danger that you will use too much honey and too little sugar—in other words, your candy will be to thin. If you find it so thin that it will not stay up in place (and very likely you will find it becoming thinner after it is given to the bees), take the candy away and work some more sugar into it so as to make it thicker and dryer.

Hive for Producing Extracted Honey.

I desire to run my bees for extracted honey and would like to know if you consider it any advantage to have a hive wider than the 10-frame. Can swarming be kept down better with a wider hive? NORTH CAROLINA.

ANSWER.—I don't know for certain, but I think there might be less swarming with a hive larger than 10-frames. It would, of course, be more unwieldy, but you might not care much for that. It would be a good plan for you to try the larger hives on a small scale, carefully comparing them with the 10-frame hives, and then you would be able to tell better which would be best for you.

Early Stimulative Feeding.

I have four good, strong colonies of bees with "red clover" queens, and want to divide as far as practicable and have the colonies so formed *all* in readiness for the honey-flow the last of June. I expect to feed liberally of both sugar and meal.

1. How early in the winter is it advisable to begin stimulative feeding?

2. Are granulated sugar syrup and say, rye meal, all the food necessary? What do you recommend?

3. How far do you consider it safe to carry the dividing, and at how early a date?

It appears to me that the further (and the earlier) they are divided, the more good, strong, young queens we will have laying.

But where is the principal danger?

ANSWER.—1. Don't try stimulative feeding in the winter on any account. Wait until the bees are flying daily.

2. Some think sugar syrup as good as honey for breeding purposes, while others think it very inferior, and only to be used when honey cannot be had. Probably no one thinks rye meal or any other substitute so good as natural pollen. If possible to have good honey and pollen, I should prefer it to anything else.

3. If it appears to you that the earlier you begin and the more you divide, the more good, strong, young queens you will have laying, I'm afraid it appears wrong to you. You can begin so early that your queens will be of little value, and if you divide too early or too much you will be the loser. As far

north as you are (41 degrees), if you get young queens to laying before June they are not likely to be of the best.

If you begin stimulative feeding in the winter, or too early in the spring, you may have fewer bees than to let them entirely alone. Indeed, it is possible to ruin a colony entirely by injudicious early interference in the way of feeding. If your object is to get as much honey as possible from the white honey harvest beginning in June, it will probably be best for you to do no dividing before the time of the harvest. Something, however, depends on the strength of the colonies in the spring, and upon the weather at that time. The thing I'm afraid of is that somehow you've got it into your head that by beginning very early to feed, and using feed enough, you can increase largely your number of colonies, and at the same time your harvest of honey. Please set that down as a serious error. Stimulative feeding is a two-edged sword that is not very safe in the hands of a beginner, unless he be of a very cautious turn. Your safe plan is to let it alone, if not entirely, at least till weather is warm enough for the bees to fly daily, and it will be a safer plan to do no dividing till about the time of natural swarming.

Was It Foul Brood?

I now have 23 colonies from 10 that I bought last spring. I had one colony very weak when bought in April: it didn't do well all summer; it was in a box-hive. In August I transferred it to a Langstroth hive, and noticed nothing wrong in the appearance of the bees or brood. Sept. 28, after I had all fixed for winter, this colony swarmed out. I didn't know it for a week, and I then discovered it was gone, and the other bees robbing the honey. I shut it up at once and afterwards examined the hive and brood. The brood was all capped, filled regularly, no vacant cells, but looked entirely natural; but on opening the cells there was a rotten mass, attended with some odor quite offensive. I burned the frames, combs, brood, honey and all, in my house furnace.

1. Was that foul brood?

2. If so, can I hope that the bees that robbed part of that honey will have it consumed by winter use before brood-rearing in the spring, and consequently escape inoculating their brood and hive with the disease?

3. If not foul brood, what, probably, was it?

4. In view of all the facts, what should I do, and when do it?

My other colonies are strong, and have lots of honey, and are well-packed in winter-cases, filled with planer-shavings, and a super full of shavings on top of the frames. OHIO.

ANSWERS.—1. Possibly, and possibly not.

2. If it was a case of foul brood you may pretty safely expect the disease to be carried to the robbing colonies.

3. I don't know. It is just possible there was no disease at all.

4. Let the bees alone till warm weather. In the meantime study up the subject carefully in your books and back numbers of bee-papers, and thus you will become so well informed that when warm weather comes you will be well armed to meet the foe, if foe it proves. Don't omit Dr. Howard's pamphlet on foul brood.

Can Bees Hear?

Do you think bees can hear? SUBSCRIBER.

ANSWER.—Opinions are divided. Some authorities whose opinions are deserving of consideration insist that there is no evidence that bees can hear. As proof that they do not hear, instances are cited in which whistling and loud noises close to the bees have failed to make the bees show in the slightest degree that anything had been heard, while a slight touch upon the entrance-board would bring from the bees an immediate response. Such proofs, however, are only negative. If twenty men should testify that they had not seen Smith kill Jones, their testimony would be outweighed by the testimony of one man who had actually seen the murder. That a bee shows no sign of having heard a sound can not be considered proof positive that it has not heard the sound. Sounds may be produced in which bees have no interest, and no heed paid to them, while sounds to which we might pay little heed might produce a lively impression on them. If you were taken by a band of brigands, and they should state in the most positive terms, but in language unknown to you, that you are to be killed forthwith, you might pay little heed to it, and the brigands might say you were deaf: but if you were to hear the same thing spoken in your own tongue, the brigands would be likely to say that your hearing was acute.

APIARY OF A. KUBIN, ST. CLAIR CO., ALA.

If you put your ear to a hive on a still summer evening, the great variety of sounds heard will awaken the inquiry, "Why do bees make all these noises if they cannot be heard?" But that is no positive proof that they do hear. Some years ago when one of my colonies swarmed with a clipped queen, I moved the old hive to a new place; but the bees of the returning swarm found it and began to enter, making as usual a loud call. I moved the hive to a new place, and the bees soon found it. Then I put it on a wheelbarrow and started to travel with it; but whenever I stopped the bees seemed to hear the call and began to cluster about the entrance. That was kept up for some time, and I can hardly understand how the bees found that hive unless they heard the call. It will not do to say they recognized the hive by sight, for if the same hive were moved, at a time when no call was made, only to the distance of six feet, but beyond another hive, the bees would never find it. Yes, I think bees can hear, but I don't know.

Have They Enough Winter Stores?

I have seven colonies of bees this fall. Two of them are from the woods; one of these is in the chunk yet, the other I put on dry combs and the brood. Then I fed them 11 quarts of half water and half sugar, well stirred. Will they have enough till warm weather? WISCONSIN.

ANSWER.—If I understand you correctly, you gave them 5½ pounds of sugar. That would be equivalent to about 7¾ pounds of honey, and it is considered wise to have about 30 pounds of honey for out-door wintering, and 25 for the cellar.

Method to Keep Down Increase.

I do not wish any increase. My queens are all clipped. I work for comb honey, and want to re-queen all my colonies. How would it work to have a supply of virgin queens on hand at swarming-time, and when a swarm issues destroy the old queen, clean off all the queen-cells in the hive, and when the swarm returns drop a virgin queen among them? Do you think that would put an end to swarming? MICHIGAN.

ANSWER.—Very likely it might prove successful in most cases. A virgin queen would be kindly accepted if very young without any difficulty, but there might be trouble if she were several days old. At a guess, I should say that in some cases the bees would start cells again. Please report after you have experimented.

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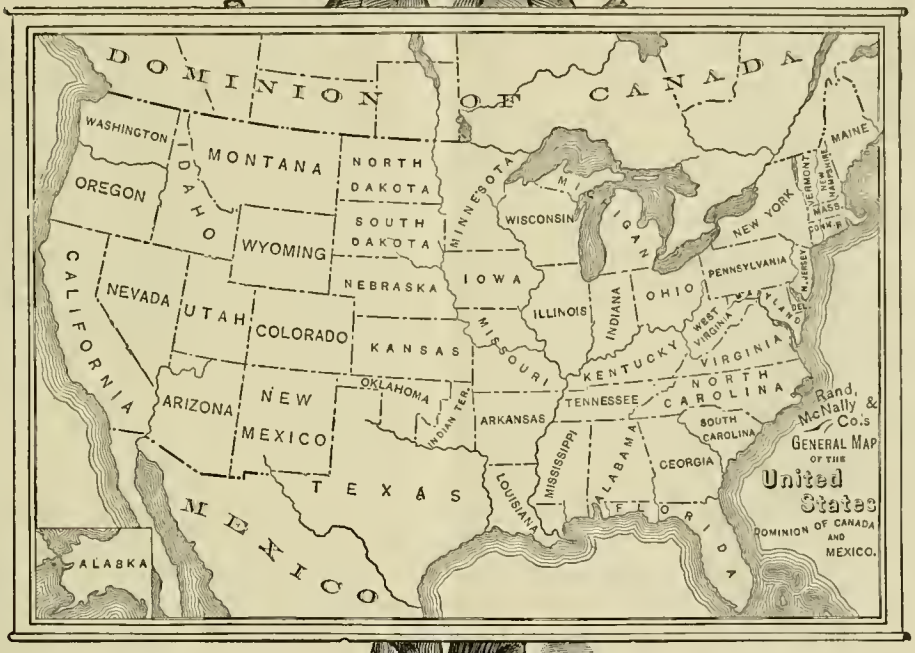

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GENERAL ITEMS

Bees Seem All Right.

My bees are in the cellar, and seem to be all right. The temperature is from 45 to 48 degrees. GEO. A. OHMERT.

Dubuque Co., Iowa, Jan. 6.

Bottom Frame-Spacers, Etc.

I have been a subscriber to the American Bee Journal for nearly two years, and I am much interested in all it contains; but I do not remember to have seen anything written about two things, of which I claim to be the originator. First, it is a piece of tin so notched out as to allow the brood-frames to fit to the notches, which piece is nailed to the bottom-board about half way of its length. This arrangement holds the frame steady, and they can't by any means get irregular, and is a very valuable convenience.

The next is this: Instead of using a honey-board on top of the supers, I have adopted a piece of crocus or gunny-sack cut in shape to fit over the super, and to hang down an inch or so on all sides on the outside. Of course, the bees will stick it to the top of the sections or super-frames—so they will a honey-board; but with my arrangement you can easily pull it up when necessary, and look in, and replace it. With the honey-board you have to pry, and pry, and split, and worry considerable before you can get it up, and very often split it before it will come up. It has another advantage: It can be managed to act as a ventilator in the hot summer, by placing an inch strip of wood over the top, and let the top of the hive rest on the strip. This gives a gentle draft of air from above, and not too strong to interfere with comb-building. Has any one tried these two arrangements?

JOHN KENNEDY.

Adams Co., Miss., Dec. 12.

[Notched arrangements of wood, wire, and perhaps tin, for holding bottom-bars in place, were in use perhaps 40 years ago. Covers or gunny-sack or other cloth were also used to some extent some years ago.—EDITOR.]

A Woman's Report for 1901.

It was a poor year for bees; late spring, then a drouth, then too much rain, and then no fall flow of honey. Some colonies did well for me, but I did not average a dollar to the hive. I sold all the honey I had at 15 and 20 cents a pound, and could have sold more to my customers if I had had it.

All the bees have plenty of stores for winter, unless it is one colony that I was moving to another part of the yard, and noticed it felt rather light. I will make candy and keep it under the Hill's device, and under the cushion, so that, if they should be short, they can get it. One of the grocerymen last fall gave me a lot of candy that had become unsalable. I was afraid of the coloring, so I kept it until spring and used it as I have spoken of before. When I took out the cushions they had it all used up, and such a mess of bees as I had; they made a lot of comb in the sections in the fall, but could not get honey to fill them, so I will have nearly a hundred to commence with in the spring, the most of them full of comb.

I have not seen any one hive bees as I do, and as I get so many helps in the American Bee Journal, I feel that it is my duty to give others the benefit of my experience. So before swarming-time next season I will give my way of hiving them.

I get the sections cleaned, and those that have not much honey in them I take a super and put in four section-holders and put it in a hive which I think has a little comb, and uncap where the honey is, and put them in on the section-holders, and cover it up; the

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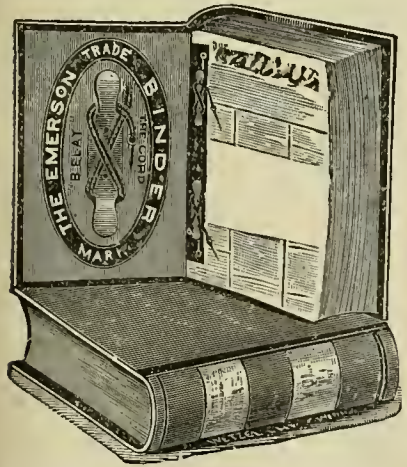

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bees of that hive will clean them out nicely, and not tear the comb any. When cleaned out I take out and put in more, until all are done, and there is no danger of robbing; the other bees do not know anything about it. I kept two sections on the porch to try that way, but they tore the comb considerably; but on the top of the hive they did their work nicely. I put some on two hives, but one can put them on as many hives as may be desired.

I could not get along without the American Bee Journal. There have been two or three articles that have been worth the price of a year's subscription. I look for it every Friday, and have to look at all the headings, however busy I am. I credit whatever success I have to the Bee Journal. One of my neighbors has four colonies, and she did not have a bit of honey; she feels she can not afford to take the Bee Journal because her bees have not been profitable to her. She will face the hives to the south, and some of the combs melted down. She did not have any shade. I shaded mine on top, and on the sides where I did not have other shade; then I have tall evergreen trees on the north side and partly on the west, to keep the cold winds off in the winter.

Mr. Andrew M. Thompson, of Alleghany Co., N. Y., wants to know whether any one can show a better record of wintering bees than he can. I am not a gentleman bee-keeper, but an old lady, 73 years old Dec. 16, and as I had not kept a record of my bees I can speak only for the past two years. I keep them on the summer stands, and have not lost any the past two winters, and I do not think I lost any the winter before. I put on top the brood-frames a Hill's device, a piece of sacking over that, then a good cushion, most of them filled with cork-trimmings, the rest with maple leaves. I leave the entrance the same as for summer, the length of the front. To keep out mice, I put a strip of wire two inches wide in the front, which allows the bees to go in and out at will.

I have always had my hives face east, and leave the same in the winter. I set a board slanting in front, and when it snows I go to them all and draw the board out at the top, and brush the snow away and lean it back against the hive at the top. On some I have boxes, or frames, I should say, with no top or bottom, large enough to set over the hive, so I can pack leaves or dry grass between the hive and box, then a cover of boards with tar paper. Some I have fodder standing around three sides, and a little around the front corners and the tops over the hives. I have most of them in pairs, with fodder around them, and dry grass or leaves between.

I have 16 colonies, and all nicely packed for winter. I finished the last outside on Thanksgiving Day. I have tried the tar paper as I read of in the Bee Journal, letting it come to the ground, then packed grass and sod all around on top of that a little ways, so the cold wind can not go under the hive. They are set on frames 6 or 8 inches from the ground. I pack the hives, as I said, with the tar paper around before I set up the fodder to keep the cold from going under. The box-frames are banked up the same (not at the entrance, of course), so they are better cared for this winter.

I buy dry-goods boxes to use for my bee-bnsiness, and knock them to pieces, as they are cheaper than lumber. My means are limited, and I am alone, and have to do everything myself. If I live till spring I may report what success I have this winter.

If the foregoing finds a place in the "Old Reliable," Andrew Thompson can judge for himself whether or not this is what he asked for. SARAH J. GRIFFITH.

Cumberland Co., N. J., Dec. 2.

An Old-Timer's Methods.

A grape-vine is a nuisance in the bee-yard. I now have a fine cherry orchard trimmed high enough for one to walk under, and it gives good ventilation between the branches and the bee-hives, with shade all the hot part of the day. My hives are 8 to 10 inches from the ground, all in good, well-painted hives—no rags stuffed in cracks, and the alighting-boards are as wide as the bottom of the hives.

I once bought burlap by the acre, and cut

Langstroth on... The Honey-Bee

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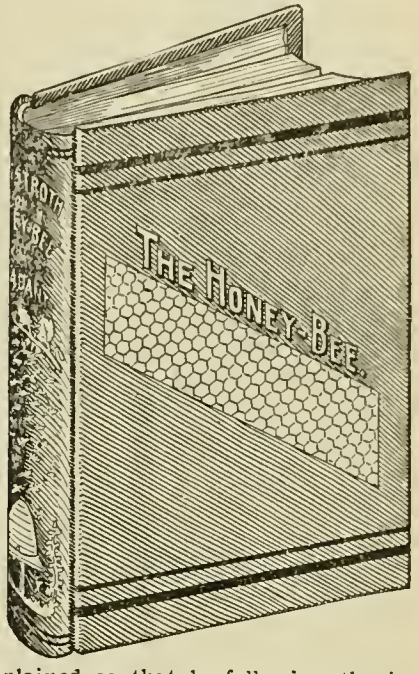

plained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

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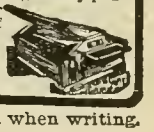

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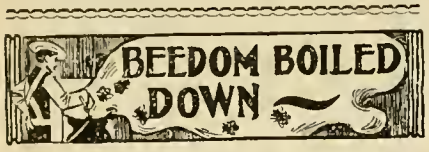
and sowed sacks for chaff cushions till the wee hours of the night, then hauled oats chaff to the barn to use for filling, and in spite of all I would lose some bees. There was too much work in this, so I adopted this plan, which has been a success so far for some years:

First, I see that every colony has plenty of stores; then I take supers (without section-holders), cut a thin board just to fit in the rabbet at the top of the super. Then scrape clean the top-bars of all burr-comb, if any, then set the super on the hive. The bees have room to pass over all the brood-frames as they may have occasion. I put nothing whatever in the supers. I have a lot of boards cut and ready to drop in the supers, and in a few hours one man can put on a great many supers. This plan has been a success with me for some years. I once bought a lot of the Hill's device, which are now as worthless as a last year's bird's-nest.

In my judgment, there are too many new-fangled things gotten up for the benefit of the inventor and the man who manufactures them, and great effort made to make the new bee-man think that without these he is not up-to-date in bee-keeping. In fact, I do not think the bees themselves like so much red-tape.

I do not tinker much with my bees. When they swarm I give them a good house to commence in, and then let them alone. I get lots of honey almost every year. Owing to the severe frost and freeze of Sept. 18 and 19, 1901, the honey-flow was cut square off, which left me with more unfinished sections than I have ever had at one time in my 30 years of bee-keeping. J. W. C. GRAY.

Piatt Co., Ill., Nov. 26.



Candied Honey — "Educating" the Public.

In a letter recently received from Mr. R. C. Aikin, of Colorado, he writes that he put up over 20,000 pounds of honey in lard-pails, let it candy, and that now there is less than a fourth of it left, or a total of 16,000 pounds of candied honey sold in three months. He is now buying more extracted, and proposes to put it in paper bags, just "to save money and to head off the tin trust," as he says.

This goes to show what can be accomplished in one's own locality by educating the consumers. In the East they have been taught to call for extracted, not candied. It may be well, in view of the large amount of the glucosed product on the market in jelly-tumblers, with a little piece of dry comb in it, to educate our customers to the use of candied honey. Just imagine, if you please, the glucose people trying to make their product candy solid. If the consumers of the whole United States were "educated" or made to understand that our product in the granulated form of a certain amount of consistency was absolutely pure, they would buy honey in that shape and give the glucosed jelly-tumbler the go-by.

There, now, I do not mean to advocate that we of the East should put out candied honey exclusively. Oh, no! but I only desired to show that where a locality is "educated" to the use of honey in this form, it would buy quantities and quantities of it, as well as clear extracted, because it would know it was getting *pure* honey.—Gleanings in Bee-Culture.

A Long-Tongued Canard.

A wild statement is going the rounds of the European bee-journals, the last one I've seen it in being Le Rucher Belge, a really excellent journal. In that it is said in all seriousness that Mr. Root, the well-known American bee-keeper, has succeeded in obtaining long-tongued bees of such excellence that, notwithstanding the high price at which Mr. Root sells them, $200 apiece, he has not been

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able to supply the demand, and has been obliged to start an additional queen-rearing establishment in Texas to help out!

Now, I wonder how many of our foreign friends will make the proper correction by saying that the A. I. Root Co. merely valued *one* queen (that was never offered for sale) at $200, and never sold a queen for more than $10.—[It is evident that some of our friends across the water see through a glass darkly. That is to say, they have acquired only a smattering of English, and a very poor smattering at that, with the result that they do not read aright. Whew! if we could sell queens for $200 apiece, and not supply the demand, we would go out of the supply business instanter.—EDITOR.]—Stray Straw in Gleanings in Bee-Culture.

Long-Tongue Bees.

At last, thanks to Editor York (American Bee Journal, page 691), my error has been specifically pointed out, and I am glad to correct it, for I did not say what I meant. I said, "I believe that long tongues are of no value only so far as they represent an increase of vigor;" I meant to say, "I believe that long tongues are of no value except in those cases in which they represent an increase of vigor." Mr. Doolittle's measurements tend to confirm this position.—F. B. SIMPSON, in the Bee-Keepers' Review.

The Future of Alfalfa.

A correspondent in this issue refers to the fact that the growers of alfalfa hay are beginning to cut earlier than usual; that instead of two cuttings in a season they now get three. The result is that the mower now begins its work just about as soon as the plant begins to bloom. If it should be found more profitable, in point of hay, to cut early and often, and before full bloom, the ranchmen will, of course, look to their own interests, and not to those of the bee-keepers. There is a bare possibility that the time will come when bee-keeping in the alfalfa regions, where hay is the sole object, will not be as profitable as now. Those who think of going into these new localities would do well to take this into consideration.—Gleanings in Bee-Culture.

Bees and Grapes.

This season being extremely dry, the bees did no good at all around here, many starving, so that there are only just a few bees in our town. Having a demand for them, we sold most of ours, so when the grape season was in, the bees did not bother the grapes at all so far as we know, but a man in town told us that the birds were destroying his grapes, as he saw them doing it, but did not see a bee around.

We noticed here last season (1901) some grapes (we believe they were Concords), were left on the vines until they were overripe, so that one could smell them for 30 feet away, and we never saw a bee on them at all. —J. W. ROUSE, in Progressive Bee-Keeper.

Time Required to Improve Bees.

In Gleanings in Bee-Culture S. E. Miller took the ground that if we should now begin the work of securing long tongues in bees, our grandchildren might be needed to bring the work to an issue. Referring to this, a Stray Straw in last Gleanings says:

Rather discouraging is the outlook for improvement according to what is said on page 974. It is true that some improvements have required generations, as mentioned. But there's another side. *Some* of the improvements have been compassed in a year. Within 12 miles of here lives a man who lately gave $1750 for a single carnation plant. It is hardly likely that a lifetime was spent on that plant. Agrippina is a rose of low growth. One day Rev. James Sprunt found a branch of an agrippina shooting away above the rest. That's about all the time it took him to produce a new climbing rose—the James Sprunt. One day a white rose was found growing on a branch of the pink rose Catharine Mermet, and from this sport, as it is called, was at once established the beautiful white rose, the Bride. Many other new varieties have come from sports.—[You are right. The case of an insect and that of an animal, so far as the element of time is concerned, is not alike. Of queen-bees we may be able to get several generations in a season; of cattle, for example, not more than one in a year. Then it is true that a "sport" will sometimes reach away in beyond the characteristics of the parent stock.—EDITOR.]

CONVENTION NOTICES.

Minnesota.—The Southern Minnesota Bee-Keepers' Association will hold its next annual convention in the County Commissioners' room at the Court House in Winona, Jan. 21 and 22. A good program has been arranged, and a large attendance is expected. All are invited.

E. B. HUFFMAN.

Wisconsin—The Wisconsin State Bee-Keepers' Association will hold its annual convention in the State Capitol, at Madison, Feb. 5 and 6, 1902. This promises to be a large convention. All are invited to attend. There will be excursion rates of 1¼ fare for the round-trip, good for all of the first week in February.

N. E. FRANCE, Pres. ADA L. PICKARD, Sec.

New York.—The annual meeting of the New York State Association of Bee-Keepers' Societies will be held in the parlors of the Kirkwood Hotel, Geneva, N.Y., Wednesday, Feb. 5, 1902, commencing at 10 a.m. All interested in bee-culture are cordially invited to be present. Subjects of importance are to be brought before this meeting, and it is desired to have a large representation of bee-keepers in attendance.

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HONEY AND BEESWAX
MARKET QUOTATIONS.

CHICAGO, Dec. 21.—The honey market is of a slow nature with little change in price of any of the grades. Choice grades of white comb honey, 14½@15c; good to No. 1, 13½@14c; light ambers, 12½@13c; dark grades, including buckwheat, 10@12c. Extracted, white, 5½@7c; amber, 5¼@5¾c; dark, 5@5½c; the scale of prices varying according to flavor, body and package. Beeswax steady at 28c. R. A. BURNETT & CO.

NEW YORK, Jan. 9.—Comb honey continues in good demand with supplies pretty well exhausted, and we quote: Fancy white, 15c; No. 1, 14c; No. 2, white, 13c; amber, 12c; dark, 10@11c. Extracted dull with large supplies and quotations on large lots generally shaded in order to effect sales. We quote: White, 6½@7c; amber, 5½@6c; dark, 5@5½c. Beeswax firm and rather scarce at 28@28½c.

HILDRETH & SEGELKEN.

BOSTON, Jan. 4.—Comb honey is in good supply and not working off as well as we would like to see at this time of the year. Prices are ranging as follows: Strictly No. 1, 15@15½c; No. 2, 14c. Extracted, white, 7@7½c; light amber, 6½c.

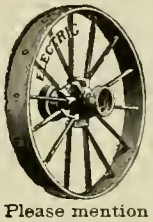
BLAKE, SCOTT & LEE.

DETROIT, Dec. 20.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Dec. 31.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Business doing is not brisk, but is at generally unchanged values, the market being moderately firm at current rates, particularly for choice to select. Stocks in this center are of quite moderate proportions, and it is the exception where special selling pressure is exerted, or less than full current figures prove acceptable to holders.



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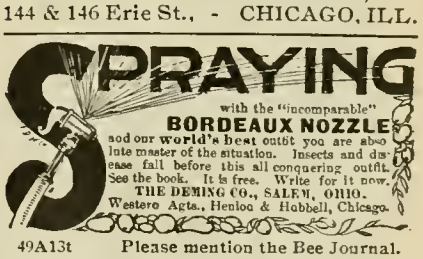
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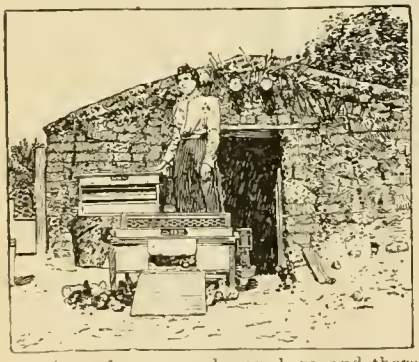
A Novel Incubator House.—The accompanying illustration shows the incubator house made and used by Mrs. Ruth Morris, on her farm in Norton Co., Kan. The house is what is known in that part of the country as a "sod house." Large blocks of mud are dried in the sun, and then placed on top of each other with a soft mixture between, very much after the manner of erecting an ordinary brick building. Across the top, timbers are placed which are covered with sod, then a layer of mud, upon which is placed another covering of sod. After the building is erected it is washed off with water to close all cracks and crevices; then grass and flower seeds are scattered all over it, and in a short time the ftructure has a beautiful



covering of green and gray, here and there studded with beautiful blossoms. These houses are dry, clean and comfortable. Many farmers use them for dwellings, while the stables and barns are similarly constructed.

In the foreground is a Hen Brooder, and you will observe that the chicks are as lively as those cared for by the mother hen. Mrs. Morris is standing beside a 100-egg capacity Wooden Hen which she has refilled for the sixth time. Both were bought of Geo. H. Stahl, Quincy, Ill., to whom she writes:

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JANUARY 23, 1902.

FORTY-SECOND YEAR
No. 4

WEEKLY

A MOUNTAIN APIARY OF MR. S. Q. CONKLE, OF ORANGE CO., CALIF.
—(See page 52.)

THE AMERICAN BEE JOURNAL.

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MEMBERSHIP DUES, $1.00 a year.

☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Alfalfa Honey--7 cents a pound in lots of 4 cans or more.

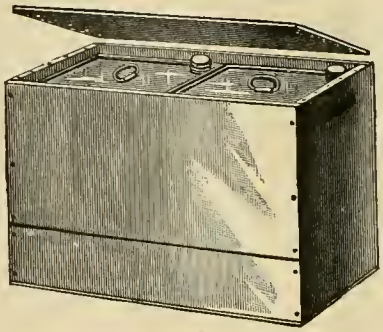
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JANUARY 23, 1902. No. 4.

Editorial.

"The Truth About Honey."—The report of the committee appointed by the Chicago Bee-Keepers' Association, and published in these columns last week—was given a prominent position in the Chicago Daily News of Jan. 10. We took a copy of the report in person to Editor Smith, of the News, who had it appear under large head-lines reading as follows:

"Pure Honey in Plenty. Committee of the Chicago Bee-Keepers' Association Makes Statement. Is in Denial of Report. Says Adulterated Article Can Be Found Without Difficulty. No Artificial Comb-Honey."

When it is known that the Chicago Daily News has an evening circulation of about 300,000, it will be seen what a wide reading the report will have. Up to the time of this writing, no other daily paper in Chicago has published the report, though all the morning papers were furnished with a copy of it by us in person.

We hope that wherever it is possible to get that statement in the local newspaper it will be done. Bee-keepers everywhere can not do a better service for truth and justice than to ask the editors of their local papers to copy it, or to send to us for a proof or copy with electrotypes of the three pictures as we printed it last week, and then place it before their readers.

Don't Discourage the Farmer from keeping bees, says A. E. Willcutt in the American Bee-Keeper. Then he asks the following pertinent questions:

Did our large producers, specialists and noted queen-breeders, like "Jonah's gourd," spring up in a single night? or did they, like the rest of us, start with a few colonies, and work their way upward?

Did the reader ever see, or hear of, a horse that wasn't a colt before it was a horse? I never did.

Did not some of our most successful apiarists commence bee-keeping in some back farmyard, with only one or two colonies?

Mating Queens in Confinement.—Less has been said about the matter this year than last, but it seems all have not been idle. Mr. W. E. Flower reports that he made a fertilizing tent and succeeded in getting *one* queen fertilized. As this is much poorer success than had previously been attained, it might seem hardly worth while to pay any attention to Mr. Flower's efforts. But when it is considered that the previous matings had been secured in a tent measuring 30 feet each way, and that Mr. Flower operated with a tent 12x10x6 feet—a thing within reach of almost any bee-keeper—we can all heartily wish him entire success in his future efforts, and watch him with interest, if indeed we do not follow his example.

Instead of putting his nucleus hives outside the tent, he put them inside; then if a queen flew when a hive was opened, she would be inside the tent. He first put into the nuclei drones from the other colonies; but they worried themselves to death trying to get through the excluder at the outside entrance. Then he put in the nuclei frames of sealed drone-brood, and the drones from these behaved differently and seemed to feel at home, flying freely in the cage, and returning to the hive at night.

Success to you in your further efforts, Mr. Flower. Or, may you and your scheme be a "blooming" success.

Starting Queen-Cells with Eggs.—A writer in the Australian Bee-Bulletin proposes to take away from a colony its queen and all its unsealed brood, leaving nothing but eggs in the hive, and says:

"Only eggs being present they cannot start too-old larvæ to make queens with.

A novice is very likely to entertain this view, and yet there can hardly be a surer way to get bees to start queen-cells with larvæ too old. For they are not satisfied with what queen-cells are first started, but will continue to start cells for several days, and by this time the larvæ will be too old. If *all* are allowed to remain, no harm will be done, for these later and poorer cells will be among those destroyed by the bees. The harm comes when the ignorant novice takes the cells one at a time and distributes them. The experienced bee-keeper will see that in the distribution of cells each nucleus shall have two or more cells, so as to give the bees a choice, and among those given there will be, in each case, one that shows by its appearance that it is not among those later started.

The Comb-Honey Slander.—It is encourging to know that at least some of the papers that gave place to the misrepresentation of comb-honey have shown a willingness to do all in their power to right the wrong they have unwittingly done. Editor Root says:

Nov. 28 the Chicago Chronicle published one of the worst slanders on the honey-business I have ever seen. It was to the effect that bee-keepers themselves were implicated in this manufacturing business, and therefore did not like to have the matter exposed. I sat down and wrote as nice a reply to that paper as I knew how, and a few days later I had the gratification of reading in their columns my letter in full.

There is also encouragement in the thought that the Department of Agriculture at Washington stands on the side of right. The Ottumwa (Iowa) Courier published the usual canard, to which Editor Root replied, and a half-column retraction followed:

"It seems," says Editor Root, "the editor of that paper, after receiving my letter, wrote to headquarters, the Department of Agriculture, Washington, asking if it were possible to manufacture comb honey, etc. The Department promptly replied in a long letter, over the signature of Prof. Frank Benton. In this letter the entomologist showed how impossible it was to manufacture the comb and fill it with glucose, and then stated that $1,000 had been offered for a single sample of adulterated comb honey for a period of many years, without a taker.

This, coming as it does from the Government of the United States, bearing the Department seal, will have great weight, and I suggest that those who answer these canards about honey always incorporate in their replies the statement that the Department has denied *in toto* the foolish stuff that has been going the rounds of the papers."

Capping Queen-Cells Early.—In the Australian Bee-Bulletin, A. A. Roberts says when only eggs are allowed in a queenless colony, the bees may cap the queen-cells too early; and F. W. Penberthy says he has seen queen-cells sealed with very young larvæ in them, in one case an egg only!

Influence of Nurse-Bees on the Queen.—A few years ago the idea was advanced by writers in foreign papers that there was a marked influence upon a royal larva made by the nurse-bees, so that an egg reared by nurse-bees other than those of the same hive in which the eggs were laid might produce a queen very different from what she would have been if the feeding had been done by nurses that were progeny of the queen that laid the egg. F. B. Simpson seems inclined to this view in the last number of the Bee-Keepers' Review.

Undoubtedly, any growing animal may be affected to some extent by the quantity or quality of nourishment it receives, but no facts have ever been brought forward to show that it made any noticeable difference what nurse-bees fed a royal larva. If the nurse-bees have much influence on growing royalty as some have urged, it ought not to be difficult to prove it by a single exchange of eggs. Take a very cross and a very gentle colony, and let each rear a queen from an egg taken from the other colony, and when the resulting queens get to laying, the progeny of each should resemble largely the nurse-bees tha

did the feeding. If there has been any case of this kind it has not been widely reported.

Again, if a colony of pure blacks should be compelled to rear a queen from an egg taken from pure Italian stock, the colony should remain, at least for some weeks, with no very great change. On the contrary, the change is sudden and entire, so far as can be seen, to just what it would have been if the young queen had been fed by Italian workers.

Bleaching Extracting-Combs.—In order to get the very whitest extracted honey, it is believed by many that the use of new combs, or combs that has never been used for brood-rearing, is desirable. In a communication from Robert J. Krause, he proposed to bleach the combs by having them immersed in a weak solution of bleaching powder or sulphuric acid, from one season to another. Two troughs are to made holding, each 1,000 combs or more, with an arrangement to run the solution so slowly from one to another that the air would all escape from the cells, the solution being run by a somewhat ingenious arrangement, every few days, from one trough to another.

He desires an opinion as to the value of his scheme. It could hardly be used except in the South, for freezing would prevent the plan from working, besides doing some injury to the combs. The question arises, whether continuous soaking would not be sure to loosen the combs entirely from the frames. Would there be any object in bleaching any combs except those blackened by brood-rearing? And would it not be a cheaper plan to keep extracting-combs and brood-combs entirely separate? Our friends in the warmer portions of the country who extract on a large scale will probably be able to give a reliable opinion as to the value of the scheme.

Weekly Budget.

Mr. Andrew Carlson, of Chisago Co., Minn., called to see us recently when on his way home, having been visiting in Indiana. He reports a good honey crop the past year, mainly from basswood. He keeps from 75 to 100 colonies of bees.

Mr. S. Q. Conkle, of Orange Co., Calif., is one of the car-load honey-producers of that State. A view of his beautiful apiary in the mountains appears on the first page of this number. When sending the photograph he wrote thus:

"I send you by this mail a photograph of my Mountain Apiary. I commenced the season last March with 126 colonies, built over 700 combs, and took out 25,514 pounds of extracted honey. The season closed in July, and owing to a severe attack of lagrippe I missed getting my bees in condition for the main honey-flow by about ten days. The increase was 10 swarms. I give room and use the extractor to keep down increase. I make my increase in the valley after the honey season is over in the hills, using the fall flow of low-grade honey.

I have now 203 colonies, and the crop sold at 4½ to 8 cents a pound, depending upon the amount the purchaser took and the quality. I sold the beeswax at 24 cents a pound.

To show how honey crops turn out in California, most of the bee-men in March and April said we would get about a fourth of a crop. We had late rains, and that makes honey. The crop was light amber, very little being water-white.

I have had something to do with bees for 20 years. I must speak of four honey-days we had last May. The weather was muggy, and the ground and hives were covered with loaded bees—couldn't put a foot down without crushing bees. The hum of a lot of bees in a good honey-flow beats any other music.

The country is very dry here at the present time (Dec. 21). S. Q. Conkle.

A Pardonable Error, it seems, was made by us on page 18, in referring to an acrobatic feat proformed by the president of the Colorado Bee-Keepers' Association at its last convention. We have received a letter from Mrs. Aikin, protesting against the statement that it was her husband whose chair (not Mr. Aikin himself) became so tipsy as to cause its occupant to take a backward somersault. It appears that it was the new president of the Association, Mr. J. U. Harris, who caused the fun by the unusual performance, that, while not exactly on the program, was an enjoyable feature of the session.

Our error is easily explained. It is the usual thing for the new president to preside at the next meeting, and not at the one where he is elected. So we supposed, of course, it was Mr. Aikin, who had been president up to that time, who somersaulted in his chair.

We certainly would not willingly deprive Mr. Harris of any credit in the matter; nor would we desire to give Mr. Aikin more credit than is due him. So we most humbly beg the pardon of both good men, and hope it will not occur again—the acrobatic performance, we mean.

The Apiary of W. S. Forney is shown on this page. Mr. W. H. Heim, of the same county (Lycoming Co., Pa.) wrote as follows concerning it and the bee-keepers of his locality:

As I had the pleasure of visiting some of the bee-keepers in Central Pennsylvania, I thought it might be of some interest to tell what I have seen among them. I find they are using all kinds of hives from the box-hive to the improved dovetailed hive.

I had the pleasure of meeting W. S. Forney, whose apiary is located in a small town at the foot of Bald Eagle Mountain. He is employed by the Pennsylvania Railroad Company, and has an apiary of 25 or 30 colonies, which he runs as a side-issue at the rear of his home. It will be noticed that he has a few chaff hives, and some of his own make. Mr. Forney is seen raising the cover from one of the chaff-hives, and his four boys are his helpers. I am glad to say that the young bee-keepers are taking a great interest in bee-culture. Mr. Forney told me that when he is away at work, these boys hive the swarms and can find the queen as readily as he can. They are not afraid of bees; in the apiary they can be seen without veil, gloves or hat.

Mr. Forney runs his apiary mostly for comb honey, being in a good basswood location, and finds a ready sale at home for all he produces, and at a good price. As a bee-hunter Mr. Forney can not be excelled, for he has captured quite a number of runaway swarms, and transferred them into hives. He showed me some very nice Italian bees that he found in trees on the mountain. W. H. Heim.

APIARY OF W. S. FORNEY, OF LYCOMING CO., PA.

The Wisconsin State convention will be held in the State Capitol, at Madison, Feb. 5 and 6, 1902. The following is the program:

President's Address—Pres. N. E. France.
Moving Bees—Gustave Gross.
Description of My Cellar—C. H. Pierce.
Production and Care of Extracted Honey—Elias Fox.
How I Produce Comb Honey—Mrs. Evans.
Address—George W. York.
Co-operation of State and National Associations—Pres. N. E. France.
Value of Good Queens and Methods of Introduction—Secretary Ada L. Pickard.
Beeswax Production—C. A. Hatch.
Benefits Derived from Attending Conventions—Jacob Hoffman.

The secretary's notice also contains this paragraph:

The above program will be interspersed with music. A general discussion will follow each topic and a free use of the question-box will be a prominent and valuable feature. Excursion rates have been secured, one and one-third fare, good for the entire week. These conventions are interesting and profitable and every bee-keeper in the State should attend. Come and enjoy the good things with us.

We trust it may be a largely attended meeting. Wisconsin always has good conventions because some of the biggest and best bee-keepers are in that State.

Convention Proceedings.

Report of the Ontario Bee-Keepers' Convention, Held at Woodstock, Dec. 3, 4 and 5, 1901.

REPORTED BY R. F. HOLTERMANN.

(Continued from page 41.)

Mr. H. Sibbald gave the following paper:

Out-Apiaries and the Prevention of Swarming.

Your committee could not have struck a subject more difficult to write upon, and yet of such live interest to the progressive bee-keeper of the new century. Mr. Hutchinson calls it the most hopeful field to which bee-keepers can turn their attention, and says "Keep more bees," which means "out-apiaries."

There was a time when extracted honey brought from 15 to 20 cents per pound and comb honey was proportionately high; when the forests were plentiful and filled with basswood—that grand honey-tree, now almost extinct. The forests in addition contained, and retained, moisture; drouths were less frequent in consequence, and these forests also sheltered and protected our most valuable honey-plant, the clover.

Now new and undesirable conditions prevail; prices of honey have declined, the forests have been cleared away, drouths are all too common, and our production of honey is a more uncertain and less desirable occupation. Honey-crop failures occur with uncertain but too frequent regularity until the apiarist with 80 to 100 colonies, depending on them alone for a living, finds himself poor indeed, and must of necessity turn his hand to something else that will combine with bee-keeping and aid him in making a fortune, or at least in keeping the wolf from the door. Farming, fruit-growing, poultry and other things have been tried with varied success, but almost invariably to the detriment of the honey-bee, and the loss or sacrifice of the honey crop.

This seems to be an age of specialists, and our thought, time and attention must be concentrated upon one thing to make the greatest success of it. This can only be done, and the above noted changed conditions met, by increasing the number of colonies kept, so as to make provision in the fat years against possible lean ones.

But the difficult part is to tell you how to do it, and a saying I have heard comes to me, and seems quite appropriate. It is, "The more I know, I know I know the less," and so venture to give help on this new, hopeful field with fear and trembling.

To commence with, then, out-apiaries ought to be so situated as to be within driving distance, and yet three or four miles apart. Any suitable yard with buildings adjoining, and cellar if possible, must be found; if with friends, who will take a kindly interest and prevent molestation, the better.

The uncertainty of the honey crops, and the difficulty of securing competent help at the right time, make it desirable that some system of management be adopted that will not require the constant attendance of any one in any particular apiary. So we must, therefore, clip all queens to prevent absconding swarms, while we bring all means in our knowledge and power to bear on the prevention of swarming, which is advantageous in any event, whether one yard or more are kept.

The first step toward this end might be to have young queens of a non-swarming strain (if such exists), or at least chosen for their virtue in that direction.

The second step might be to equalize all colonies in fruit-bloom, checking the strong and helping the weak, so as to have all as nearly as possible in the same condition, so that a yard can be manipulated together—all supered the same time, and extracted the same time.

The cause of swarming, as far as I understand, is the natural instinct of the bee when crowded and a honey-flow is on, so that it will be seen that the third step would be to anticipate their condition and wants, and provide room before they notice they are crowded. This necessitates having plenty of comb ready—two sets for each hive will be found convenient and almost necessary.

The first super might be put on at the close of fruit-bloom, if colonies are reasonably strong; and the second one shortly after the clover-flow starts, and before the first is nearly full. All hives ought to be blocked up from the bottom-board to allow ventilation, using a wedge and blocks behind. Shade-trees will be found helpful; sun-caps, also, to keep the hive shaded. Then our real work commences and we must "get a move on" to keep pace with our industrious pets. First, we must study their conditions by a glance at the entrance and a peep in the supers. If they are working well at the entrance and storing honey rapidly all is well. More room may be provided, but if they are hanging out, sulking, acting queenless and not working, when other colonies in normal condition are doing well, examine the brood-chambers; this is necessary, and may reveal queen-cells started, no eggs, probably queenless, etc. It is useless to try to tell you here what to do in such cases; time will not permit, and, besides, these little details are known to all.

By visiting an out-apiary once a week, and running over it in this way, you will catch nearly every swarm, and spend very little time on it.

Inexperienced help can be procured to aid in extracting, and a splendid crop can soon be harvested and secured by the bees.

All work must be quickly done, and any tinkering or slow method dropped. Wholesale manipulation must take their place. H. SIBBALD.

R. H. Smith—As to out-apiaries, I am only a beginner and have much to learn. I want to put on the first super during fruit-bloom. I require more than two supers, even four to each colony. If the queens are young I can work the colony to good advantage in an out-apiary. During the height of the honey-flow they can be kept back, and if later they swarm no great harm is done. Honey should not be taken off early; it should be ripened well. Every preparation in the way of supplies—getting hives and supers ready—should be done before the season opens.

Mr. Miller—My system is to visit the out-apiary once in four days. I use a divisible brood-chamber, and can see in an instant the condition of the brood-chamber and the age of the queen-cells, if any.

Mr. Chrysler—I keep only a few bees myself, but I am anxions to learn. For two or three years I have managed the Heddon hive without getting queen-cells started. I use two or three brood-chambers and then shut down the queen, and as the brood hatches the cells are filled with honey. I use starters in the new supers, and add supers as required.

Mr. Frith—Are those out-apiaries a paying concern?

Mr. Hall—I would not do without out-apiaries; in one locality you may have honey and in another none.

Mr. Byer—I believe in hiring some one to put in the out-apiary during the honey-flow and swarming season.

ADDRESS BY MR. PATULLA.

Mr. Andrew Patulla, M. P., for Ontario, being present, was asked to give an address. Mr. Patulla said he was delighted to be present at such an influencial meeting. He did not know why he was asked to give an address unless bee-keepers and journalists were students. He had heard Mr. Sibbald's paper and the discussion with pleasure; he noticed bee-keepers had their troubles, but journalists had neither basswood nor clover, and in politics they never make honey, but much too freely vitriol. He knew they represented a large and growing interest, and has felt this for some time. He was proud of their record at the Pan-American, and he felt that that work was of profit not only to bee-keepers but to the country and Nation at large. He remembered when cheese was first brought out. Mr. Ballantyne and others, had, in a quiet way, established a reputation for cheese, which had resulted in millions of dollars worth of business. In one year, the last, the export butter industry had doubled from three million to six million dollars. Almost every branch of agricultural industry had been developed from sources such as this. Poultry was going to do much in the British market. He dwelt on these because these were related to honey, and this development would result in greater consumption of honey at home and abroad. The United States has spent millions of dollars to induce Germany and other countries to use corn. With honey he felt sure much could be done.

In closing, Mr. Patulla stated that he had thought a good deal of bee-keeping, many in Oxford holding a prominent place among bee-keepers. If by their united action their honey could be classified, and unitedly handled, he believed much advantage would result to the members. There were government agencies which could be used; he would

throw out this suggestion in view of the splendid record just won at Buffalo.

Pres. Newton—Mr. Sladen, of England, was at Buffalo, and asked for some samples, and among others he had eulogized Canadian and basswood honey.

MARKETING HONEY—A BEE-KEEPERS' EXCHANGE.

Mr. Gemmill was pleased to see Mr. Patulla at the Oxford convention. It was decided at the last meeting of the Oxford Association to bring the suggestion of a Bee-Keepers' Exchange before the Ontario Association. He was grateful to Mr. Patulla for bringing this matter up.

Mr. Frith advocated an exchange.

Mr. Brown favored developing the home market first, then the foreign.

Mr. Couse—I somewhat agree with Mr. Brown. I believe Canadians are having greater faith in Canadian goods. The Government had taught them to do things well; they were honest in their dealings, and Canadians had greater confidence in Canadian honey than United States people had in United States honey. This year all the honey could have been sold locally. Bee-keepers were amalgamating more and consulting more in selling.

Mr. Craig—The low price has originated not with the expert but with the smaller bee-keepers—those outside of the Association. I would advise trying to interest outsiders more. More could be made of the home market. As to the foreign market, they had not the regular supply. In poor seasons they are "left."

Mr. Dickinson—This question is a broad one. We should have an outlet in the years of extra-production. We have had such years; one year I had 1,000 pounds I could not sell. There should be an outlet. When fruit is plentiful honey is not in so great demand.

Mr. McEvoy endorsed all that Mr. Dickinson said.

Mr. Laing had been told of men who sold this year's honey very low. He advocated an organization such as the Colorado Honey-Producer's Association.

Mr. Brown spoke about getting at a way of finding out the amount of honey produced. There was more than five times the honey produced by men outside than in the Ontario Bee-Keepers' Association.

Mr. Pickett advocated local markets.

Mr. Roberts also advocated local markets; he could not get enough to supply the demand. As to England, they received there 8 cents per pound. If he had a ton he could have sold it as well as the few pounds he had.

Mr. Dickinson advocated the British market for the man with good honey and a considerable quantity.

Mr. Couse thought the best way was to buy out the small bee-keepers.

Mr. Sibbald—I have closely observed honey-markets and have had a good deal of honey to sell. Two years ago the honey crop was a partial failure; dealers got it early and made a good profit. This year they had secured it early, and this had helped them out. Fruit also helped them out. Bee-keepers should combine and get crop reports.

On motion of F. A. Gemmill, a committee was appointed to take in hand the matter of a Bee-Keepers' Exchange. Messrs. Hall, Frith and Laing were appointed such committee.

TUESDAY EVENING SESSION—DEC. 3.

R. H. Smith read a paper on

Exhibits of Honey.

Exhibits of honey at our local fairs and exhibitions have come to be recognized as much a part of agricultural displays as fruits or vegetables, and in any locality where bee-keepers have taken sufficient interest in agricultural societies, and attend their meetings, the directors have seen to it that the premiums were liberal and encouraging.

There is no better means of educating the general public in the nature and use of honey than a good display at fairs; I do not mean such as is usually called for in the many prize-lists, perhaps, "strained, five pounds" and "in comb, five pounds," which is often taken literally. The liquid is very much strained, but not all of the pollen is strained out of it, and, as I have seen large brood-combs shown for comb, all this is pretty good evidence that there was no up-to-date bee-keeper on the committee for revising the prize-list.

The secretary and directors of agricultural societies are generally progressive and intelligent men, who wish to have their exhibition outshine all the others, and to do this they must be well-informed, and I have always found them willing to do all possible in the way of alloting space and premiums for displays of honey, especially after it has been shown what an attractive display may be made with honey, and other products of the apiary. Of course, I do not mean that display should be encouraged before quality—quality should count most, every time.

Some years ago, when living in the district of Muskoka, I exhibited honey at the Muskoka County Fair, showing the small quantities called for in the prize-list; it was classed with preserves, pickles and other home produce, and attracted no particular attention.

The next year I exhibited at the Industrial at Toronto, and, on my return to Bracebridge, applied for space at the county fair to put up a display of comb honey in sections, also extracted honey, both clover and buckwheat, some of it clear and some in the candied form, several hundred pounds altogether. Well, the result rather astonished me; I was overwhelmed with questions about honey. "How did it get into the little boxes?" "How was it some was so light and clear, and another kind so dark in color?" "What made it candy?"

People who had never seen or tasted honey before stopped to admire, and expressed a desire to purchase some; the result was, we sold all cull sections by cutting them into five-cent pieces, that were eaten on the spot, instead of candy; and many who had once tasted honey purchased some to take home with them. I had a crowd around the exhibit the whole time. The honey was all sold, and orders taken to be filled later.

This proved to be the best advertisement we ever had, and was the means of introducing honey into many homes where it was found to be so much more healthful and economical than many of the preserves in common use.

When on a visit to Muskoka, during the fall of 1900, I found the display of honey still kept up; the bee-keepers in that district, who are as progressive as any in the Province, evidently see that they are represented on the board of their flourishing county agricultural society.

A mistake is sometimes made, when attempting to make a display of honey, in not having a sufficient variety of packages. I have known an exhibit to be made of several tons of extracted honey, all put up in 60-pound cans in their cases. While such an exhibit may be impressive to the amateur who has a few colonies, to my mind it is not as attractive to the general public as a much smaller quantity would be if put up in a variety of packages of both glass and tin.

Another large exhibit I remember was all put up in one-pound glass jars. In both cases these were extremes, and were rather monotonous to the beholder. It must not be supposed that a good display of honey is made without some work. Honey of good quality is first required; the comb in sections, with its delicate, white cappings, must be freed from propolis and cased in new, clean, no-drip cases of various sizes, with glass on both sides to show the contents.

The extracted honey, if in the candied form, will be of the previous season's crop and put up in glass jars, or, if liquid, it is best to have a variety of packages of both glass and tin of a size and style that may be useful after the honey is used, with a sprinkling of fancy jars for display only.

I find it best to heat all honey, to be shown as liquid, to about 145 degrees to remove all signs of granulation; after it is cold it may be run into glass and pails of various sizes, that have been nicely labeled, care being taken not to use jars that have a green tinge, or it will give the honey an unnatural color.

The exhibitor is now ready to set up his display, and in doing this he has to be guided by the quantity to be set up, and the space at his disposal. A small exhibit artistically arranged is far more attractive than a large quantity massed together without design. And, last, but not least, if there are many entries, and he is trying to get ahead of his competitors, he must not forget that very likely the other fellow is doing the same. R. H. SMITH.

Mr. Craig, in opening the discussion upon the subject, said that some thought this question did not receive the attention it merited. The producers at large centers come in contact with large buyers, and are also educating the public. Mr. Smith brought out desirable points—neatness and attractiveness are important. The Ontario Bee-Keepers' Association should take hold of this matter. At Toronto this year the exhibit was stuck in a tent. Exhibitors should get fair play. This exhibit was not local, but visitors from other countries saw the exhibit.

Mr. Evans corroborated what Mr. Craig said as to ac-

commodation. Suggestions had been asked from him and Mr. Hoshal as judge this year. One suggestion had been made to have the prize money for neat exhibit divided by the judges according to merit.

As soon as Mr. Pickett found clover was yielding well he asked for the same building, but could not get what was wanted. The grant should be conditional.

Mr. Holtermann said honey exhibits were important, in these days of keen pressure, and, what would be got, largely depended upon the pressure that could be brought to bear upon the committee. It was advisable to give the grant conditionally. A motion was carried to this effect.

(To be continued.)

Contributed Articles.

No. 1.—Bee-Keeping for Women.

Some Practical Suggestions to Those Who Contemplate Going Into the Business.

BY EMMA WILSON.

Is bee-keeping a desirable occupation for women—that is, as a business? For some women, yes; for some women, decidedly no. It all depends upon the woman. There is no denying the fact that if you make a success of bee-keeping you will find hard work and plenty of it. You must be willing to work early and late during part of the year, and give up a great many pleasures that some other occupations would allow you to participate in, because bees must receive prompt attention, and certain things must be done at certain times even if there is a picnic or a tea-party you would like to attend; and sometimes it is hard to work when nearly all your friends are taking their vacations and are having such a good time, for their vacations are very apt to come during the bee-keeper's harvest.

If you are thinking of taking up bee-keeping as an occupation it is well to take these things into account, for you will have to face them, and some hot day, when the temperature stands at 90 degrees or 100 degrees in the shade, you will feel very much abused that you have to work while it is so hot, and others are playing. That is, you will be likely to feel that way unless you are intensely interested in bees, and to make a successful bee-keeper, be it man or woman, a person must be interested in bees—yes, bees must have a sort of fascination for one. If that is the case, you will be thinking a good deal more about what your bees are doing than about what your friends are doing, and you will be surprised when they pity you for having to work so hard, and sorry they have wasted so much sympathy on you. For if your bees are only bringing in lots of honey, what do you care if you do have to work hard and it is hot? That is just the condition of things you want. The harder the bees work the harder you are willing to work, for that means a good harvest for you.

Let me tell you, the hard part comes when the season is a failure, and you feel you are not getting any returns for your work; for even then the bees must be taken care of.

Can a woman successfully take care of bees? Yes, I think she can, if she is the right sort of a woman, with lots of energy and push, not easily discouraged, and possessed of lots of patience. Some of the work will be pretty heavy, and a sickly, delicate woman would be obliged to have help, but I really believe a healthy woman can successfully run an apiary entirely alone. I know of no healthier occupation. Of course, you must be willing to take the stings; that is part of the business. Fortunately, the human system becomes, in time, habituated to the stings to such an extent that you are, to a degree, immune to the poison.

I believe that women are, as a class, more patient and persevering than men, and are particularly adapted to bee-keeping. The great trouble is that they usually want to rush things too fast, and commence with a larger number of colonies than they are able to care for, when they really know nothing whatever of the business. It is best to go slow; very slow at first. It is well to learn by experience, and sometimes the experience is quite expensive. I do not think I would try more than two or three colonies at first. If you are successful with these, gradually increase your number, always keeping in mind that it is much better to have one strong colony than two we k ones; for it is the strong colonies that give us the honey, and a lot of sickly, weak colonies are only an expense and not worth fussing with.

It will probably take you some time to learn this, but the lesson will have to be learned. Some way, a beginner is always so anxious to increase her number of colonies that it is hard to learn that it is not the number of hives with bees that counts, but the total number of bees. After you have become somewhat familiar with the business, through experience and the study of a good text-book on bees, you will not be so anxious to increase the number of your colonies at the expense of their strength.

About 18 years ago I was teaching, and my health began to fail, and my physician ordered a change of occupation and rest. I intended to rest one year and work with the bees in order to be outdoors as much as possible, and then go back to the schoolroom. I did not go back. In fact, I doubt very much if I would be living to-day if I had continued teaching. I have never been considered strong, and yet I have never missed a day's work throughout the entire honey season for 18 years, taking my share of the hard as well as the pleasant part of bee-keeping. For me it is very fascinating work, and I thoroughly enjoy it. It is remarkable the amount of hard work one can endure while working in the open air, when one's whole heart is in the work.

Perhaps the larger number of women who keep bees can spend only a part of their time and keep only a limited number of colonies, instead of spending their entire time at it as I have done. I feel sure there is much health connected with such work, if no great amount of wealth, and many a tired, nervous woman would be much benefited if she could spend a few hours each day in the open air working with bees, and, no doubt, add a considerable sum to her pin-money, besides.

McHenry Co., Ill.

In-breeding as Applied to Honey-Bees.

BY ADRIAN GETAZ.

This is perhaps the most important point to consider in our efforts to improve our races of bees. In-breeding means using male and female reproductors of close parentage, even brother and sister, or father and daughter. The more alike are the male and female parents, or the more closely related they are, the more surely will their characteristics and peculiarities be transmitted to their offspring. On the other hand, if the male and female parents are different in their peculiarities, color, qualities, size, etc., all sorts of variations may be expected in their descendants.

Now, suppose we have an extraordinarily good queen. If we can safely breed together her descendants, drones and queens, and keep up the process through the successive generations, the qualities of that queen will be transmitted to her descendants; not only transmitted, but also intensified and fixed. The word "fixed" means that the offspring will invariably possess the peculiarities of their parents.

If, on the other hand, in-breeding can not be practiced, we will have now and then to introduce some queens or drones of outside and comparatively inferior stock. Their offspring will necessarily be inferior and irregular compared to those of pure stock. In a word, every introduction of outside blood will be a step backward in our efforts to create a superior race of bees. Needless to say, that it would be a serious drawback.

NATURE'S WAY.

The chief argument against in-breeding is that "it is not Nature's way." In the state of Nature, mating between close parents is the exception, rather than the rule. In many plants, the female flowers are not on the same plant as the male. In others, the pollen is so situated that it can not fertilize the flower. Other pollen must be brought from some other plant by the wind or insects. The larger animals roam about, and find for mates all but their close relatives. Queen bees, ants and wasps mate away from home.

WHY IS IT SO?

Why is in-breeding injurious? or why is it avoided by the laws of Nature? I think I can give one reason, and I

will explain it by an illustration. To make it easier to understand, I'll take it in the human race.

Suppose we have, say, three families of people, and it is arranged that no one shall marry outside of his own family. Suppose, also, that one family has a tendency to weak lungs; the other to weak stomachs; and the third to weak eyes. What would the result be likely to be? Why, the probability is that the tendency to having weak lungs would increase in the first family, as the generations go by, until the last member would die of consumption. The last family mentioned would finally become blind; while the second would die out of liver or stomach troubles. Now, suppose that, instead of having them marry in their own families, we let them inter-marry and mix together. Then some of the children may inherit some of the defects of the father and some of the mother. Some, perhaps, the defects of both parents; and some none of the defects at all. Those that have inherited mostly the good qualities, will remain. *The fittest will survive.*

We do not know exactly how the present species of plants and animals have originated, but we know beyond a doubt that they have undergone many transformations, and that those best adapted to their environments have survived. The above illustration may give an idea why those propagated by mixing have survived, rather than those propagated by in-breeding.

THE BREEDER'S WAY.

Now, I am going to make a very bold proposition. While, in Nature, in-breeding would bring bad results, it does not necessarily follow that the same will occur in the hands of a skillful breeder.

In the above illustration, I took three families with defects; but the breeder of bees or other stock need not use defective stock or defective individuals. He can throw out all the subjects that are objectionable for some reason or other.

Suppose we were to take a colony of bees upon an isolated island. If we allow them to multiply just as they please, or if we rear queens indiscriminately, the defects that those bees may have will surely be perpetuated, as well as their excellencies. But, if we select only the drones and queens that possess the good qualities in the highest degree, and the defects in the least degree, we shall surely improve the good qualities, and eventually eliminate the defects altogether.

We have made one step. But the question may be asked: "Is that all that there is of it?" Granting that one of the evils, or, perhaps, the chief evil, of in-breeding is the transmission of defects; granting, also, that this can be avoided by a proper selection, is it not possible that in-breeding may yet be an evil in itself?

To this, all that can be answered is, "What do the actual facts show?" In breeding bees, we, as yet, have no facts to show, owing to our inability to control the mating of queens; but we have numerous instances in other kinds of stock.

Even a superficial knowledge of physiology will show, beyond any possible doubt, that the same general laws govern all the living creation—plants, insects, animals, and even the human race. Of course, there are differences, and they must be taken into consideration, but the underlying laws, the fundamental principles, are the same throughout; and if in-breeding can be practiced successfully with horses, cows, chickens, etc., we have all reasons to believe that it can also be practiced with bees; at any rate, until positive proof of the contrary is furnished.

ACTUAL FACTS.

In 1828, a French Merino sheep-breeder had in his flock a lamb with smooth, silky wool. He undertook to cross him with the ewes of his flock, but very few of the offspring showed the silky wool. However, when he was mated with those of his own daughters that also showed silky wool, *all* the lambs thus produced had also the same kind of wool. Thus was created the stock of silky wool Merino sheep. The whole race descended from that one lamb.

Concerning the Durham cattle, Chas. Colling had a bull which served the whole herd, including his mother, all of his daughters grand-daughters, etc., for six generations. This was the foundation of the present Durham race of cattle.

There is, at Lyons, in France, a large establishment which furnishes guaranteed reproductors of the different breeds of stock. As the object is to have perfectly pure stock of the highest grade, the closest kind of in-breeding has been practiced. First, because an immense number of animals of each kind would have to be kept to avoid in-breeding; and, next, because the introduction of outside stock would have given irregular and often inferior animals.

On the Jersey stock the process has been followed seven years; and on the Friesian twelve years. All the animals are as perfect as they can be, and everyone raised is almost the perfect image of its ancestors.

The same can be said of the Merino sheep. Absolutely no tendency to run out or degenerate has been observed.

In the different races of pigs, the results are not so conclusive. The best races, that is, those that fatten the most and the quickest, cannot be submitted to close in-breeding without losing, to some extent, their reproductive powers. The mating becomes difficult, and the females have too little milk.

Concerning the Belgian hares and other breeds of rabbits, the results have been unexpected. All the breeds with brown or gray-brown hairs have maintained themselves throughout. Those having some white hairs, either in spots or mixed, have invariably drifted toward albinoism; that is, toward a uniform white color accompanied with red eyes.

The celebrated stock of Toulouse geese has not changed a particle. The whole lot at the establishment is exactly like the original stock chosen eleven years ago.

Some of the chicken breeds have also denoted a tendency toward albinoism. Those having white feathers finally became entirely white when closely in-bred. Needless to say, that the animals having any defect have been invariably set aside. This is absolutely necessary to successful in-breeding.

In regard to the in-breeding of swine, as noted above, the same peculiarities have sometimes been noted in the breeding of cattle. Bates, one of the founders of the Shorthorn race of cattle, practiced the closest kind of in-breeding during thirteen years; but the fecundity of his stock suffered, and he was compelled to introduce new blood three times, to maintain the fecundity. It is hardly to be supposed that the in-breeding in itself was the cause of the trouble. If so, it would have manifested itself in the Jerseys, Friesians and other milking breeds, as well as in the Shorthorns.

On the other hand, the same defect appearing also in the highest fattening breeds of swine, seems to show that the excessive tendency to take on fat is incompatible with a full development of the reproductive faculties. This could be expected, considering that an excessive disposition to fatten is something of a disease itself.

To obtain the best results in fattening, or creating a stock disposed to take on fat quickly and in abundance, it is necessary to keep the animals confined and very quiet, even in the dark, and fed with the richest food. Such treatment must be, in itself, almost enough to destroy the energy and the reproductive powers.

Concerning the tendency toward albinoism in some of the Belgian hares, the manner in which they are kept may have something to do with it. If, instead of being shut up in more or less dark pens, they were in the open air and the sunlight, that tendency might not exist.

Considering that our best breeds of horses, cattle, sheep, swine and fowls have been obtained, I might say *created*, by choosing the best specimens, and then perpetuating them by the closest kind of in-breeding, I think we are perfectly safe in following a similar course in our efforts to create a superior race of bees.—Bee-Keepers' Review.

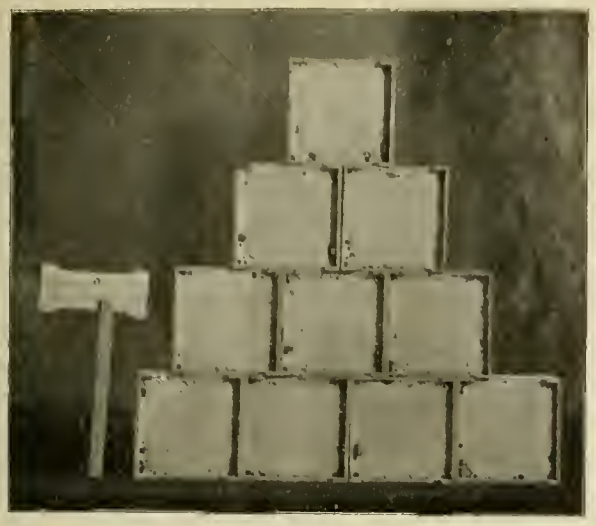
Knox Co., Tenn.

Some Results of the Season of 1901.

BY J. S. HARTZELL.

As another season for the bee-keeper has ended, and with it the trials of implements and designs of various kinds, it is but fitting to express our convictions from experience.

Much has been written relative to various kinds of separators for supers, and, of the number, the so-termed "fence" and plain sections have apparently been the favorites. I have been using for several years three kinds, viz.: Tin, veneer or solid wood, and the fence. My first experience was with tin separators, and after the lapse of 12 seasons I stand with Mr. Doolittle in believing tin the most economical, and that as fancy honey and as much per



HIVE-MARKER AND TEN SECTIONS OF HONEY.

colony can be produced with it as with any other separator made.

Veneer or solid wood separators are too frail. The fence has not only the same objectionable feature, but with it another fully as objectionable, viz., often ribby comb in sections. Not only this, but as the fence is made for use with plain sections only, I find it difficult in many instances to case plain sections when filled, without marring the cappings.

My favorite section is the 4¼x4¼x1⅞, and so-termed two-way, and the use of tin separators; and my reason is, no danger of marring cappings when cleaning. The same can be said when casing.

In regard to hives, Golden's combination comb-honey hive has again proven best in the production of honey. And just here I would like to inquire why it was that *not one* of the gentlemen named in my article (published Nov. 22, 1900), accepted the proposition I made regarding their testing the Golden hive in 1901. But I am fearful—yes, confident—Prejudice is the enthroned power, and, if by trial forced in honor to acknowledge its supremacy, might injure our influence! If any of the gentlemen I named have anything to offer on the same terms to me, I am ready to accept, and will, to the best of my ability, give it a fair, impartial trial in 1902.

I have this to say regarding the Golden plan or system: I feel confident that if fairly tested there will be no cause of regret for having put it in practice, for had it proven an error on the part of Mr. Golden, long ere this I would have cast it to the four winds, and advised the fraternity of its failure.

LOSS OF QUEENS.

Yes, indeed, I lost 10 colonies out of a total of 93 the past fall. Queens were lost by being superseded, and young queens failing to return safely, after which robbing set in and the doubling-up with other colonies adopted.

Who of the vast number of bee-keepers can tell when a queen will be superseded, without examining the internal condition of the hive? If such there be, will he please inform the fraternity on the subject? However, it is well known that more queens are superseded in the late summer and fall than at any other time.

The remedy: Now I expect swords will be drawn, and objections filed. Kill all queens in the apiary at the close of the honey-flow, save those of that season's progeny, and see that all colonies are supplied with young queens. Thus the bee-keeper will be ever watchful until he knows all colonies are requeened. This was formerly, and hereafter will be, the plan adopted by me, and I am confident better results can be obtained from an apiary stocked with young queens than from old ones, or from young and old mixed.

HIVE-MARKERS.

Yes, I have used slates, etc. Last summer I ran short of slates, and an idea presented itself to me as follows: Take a piece of solid wood six inches long and half an inch square; taper two sides so as to be three-eighths of an inch at one end; with hand-saw rip a kerf half the length of the piece. At the larger or square end drive in the center a two-inch nail, having first cut the head off, leaving five eighths of an inch exposed. The part of the nail exposed file tapering until sharp, then stick in the top of the hive. Take a piece of broken section, write on or letter, or use any motto you may have adopted, place it in the saw-kerf and a glance in passing through an apiary reveals in plain view the condition of the colony. Try it. To prevent washing off by rain, use indelible pencil, and an extra piece of section tacked flat-wise on the edge of the piece written on.

The last was an unfavorable season for the production of honey where my apriary is now located, being extremely wet. Rain, rain, rain, was almost of daily occurrence, and that, too, right at and through the basswood flow; not only then, but prior to and after. My honey crop was 3386 pounds—2993 pounds of merchantable sections, and the balance uncompleted sections, and of which I extracted those having the least honey, taking 180 pounds of extracted honey, keeping the remainder for my own use and for sale on the home market.

During the season I increased 10 colonies, but, as stated, I lost 10; thus, when returning homeward my apiary contained the same number at the close as at the opening of the season.

Fourteen colonies worked on the Golden plan yielded three supers each of completed honey, whilst only one colony on the general plan yielded the same amount.

Whether or not the bees were of the so-much-advertised long-tongue variety I do not know. I do know I have not made any purchases of that kind of stock, but if such there be, each and every apiary of 25 or more colonies has them. We know the human family has them, and great sensations and disturbances in neighborhoods are caused by them, ofttimes. Then, we have the long-fingered variety, too; both are very bad elements, requiring close and diligent watching.

Now, if the long-tongued bees can create as much of a sensation in the apiary as long-tongued people can in a neighborhood, I would then want them.

Who of the many breeders of long-tongued queens will guarantee their progeny to store more honey than bees from our ordinary queens? If such breeder is known, I would like to contract with him for queens for half the number of colonies in my apiary next season, on the following terms:

Tests to be made in 1903. Should the so-termed long-tongue variety store, on an average, five pounds more per colony than the others in the yard I will pay double the price regularly sold at; failing to do so, the breeder is to have no pay. I will, if desired, place an amount necessary to cover the cost of the queens in hands of the editor, on terms stated.

The above expresses indirectly my faith in the so-termed long-tongue variety.

Are all thoroughbred Jersey or Alderney cows good? Are all Norman and Clydesdale horses good? Do we find the greater number bringing fancy prices? Verily, no. It is only the few selected ones, and very often they prove no better than those considered inferior; and in breeding from the very select, the same results will evidently follow.

Finally, give me young queens; yes, queens of the past season's rearing for the season of 1902, and at the close of the harvest of 1902 see that all colonies are supplied with young queens for 1903, continuing the rearing or stocking each year with the close of the harvest. It will be the means of a live and healthy apiary. Young, vigorous queens means vigorous and healthy bees, able to withstand the storms of winter, and undoubtedly not so liable to disease. At stated intervals infuse some new blood, by requeening at least a few colonies by purchasing queens from some reliable breeder.

I herewith present a picture of 10 sections of a super of basswood honey produced by the use of the two-way sections and tin separators, on Golden's combination comb-honey hive. No selection was made to secure the best, my purpose being at first to have the entire super taken, but I found it would reduce the apparent size of sections too much.

The hive-marker spoken of appears at the left in the picture.

Somerset Co., Pa.

The Premiums offered this week are well worth working for. Look at them.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

THE DR. MILLER NUMBER.

That was an excellent idea to have a Dr. Miller number. The pictures one at a time would not be so effective. Getting acquainted is a process not happily done by small driblets—and, of course, all old readers enjoy anything approximating to getting acquainted with the senior member of the staff. I feel most interested in him at work at his desk. Desk as crowded as mine, but not so disreputably crowded. Face has a happy look, as if he enjoyed writing—and if he's like me he does.

By the way, our chief has been very shy about showing us his home, and family, and surroundings, and when-nobody's-looking style. Why not have a York number?—[We prefer to leave such things to the editors who enjoy showing themselves off in their own papers. Our family is only Mrs. York, and the "surroundings" are all rented.—EDITOR.]

CURIOUS WAYS OF CLIMATE.

How curious are the ways of climate. In the climate of Florida, it seems, wire-cloth lasts so poorly that burlap is recommended instead of it. Page 744.

DISCOLORATION OF HONEY BY THE COMB.

Dr. Mason is going it strong against discoloration of honey by the comb, if he is going to destroy all his extracting-combs and have new ones built. Page 742.

COLORS OF BEESWAX.

We expect the perfume of a flower to assert itself in some degree in the finished honey; but as to wax a different and very puzzling set of laws seems to come in. A diploma for the wise-head who can tell us fully about the how and the why of it. To a certain extent it seems as if the secretion of wax wipes out all original odors and colors and produces uniformity. And yet there are very great variations in wax, and lots of them. Once when in a supply store I found the place pervaded with an unusual perfume; and the lots of foundation piled up around was of a cherry-red instead of the usual color. Was told it was the usual color and odor of Jamaica wax. Page 751 gives us a number of these variations. One locality in Austria furnishes a wax with the odor of pitch, and too soft. A grayish-brown wax of almost no odor comes from India. Senegal wax is dark brown, and has an unpleasant smell; yet from Guinea comes a good wax. Guadaloupe has a black wax. And the European bleachers say American wax is too hard to bleach. Manifestly it's not the latitude and longitude that does all this. What is it?

THE PICTURES OF APIARIES.

Did you mind (of course you didn't) that for a long time I commented on every apiary picture that appeared. After awhile the thing seemed to scrape and run hard—then I faced about and quit the pictures altogetner. The beauty of the view on the outside of No. 48 almost tempts me back into the old rut again. Mr. Elliott ought to be a good man to be the Adam of such an Eden of rural simplicity.

HAND-PICKING DRONES.

And here is a subject that is fresh, and not yet shop-worn. How do you select in hand-picking drones? How discriminate between the desirable pater-familias of the "coming bee," and the low-lived proletarian that mates the other fellows' queens? Mr. Doolittle makes a promising start at an answer on page 764. Undersized and ill-shapen ones first killed off. "Nextly," he takes the hind ones, and spares those that rush around lively. Then all that vary much in markings from what seems to be the normal style of the colony have to go. Lastly, he ferrets out and kills all that show by their looks that they might have been born in some other colony. Not easy to give a better set of rules, I reckon. Yet at least two of them are open to some doubt as to whether the best ones are not the very ones that get killed. Never will be able (more's the pity) to keep the approval of a drone in abeyance until you have examined a few of his "calves."

DOOLITTLE'S BEST SEASON—LONG TONGUES.

And so Doolittle secured his highest average last summer. Congratulations. For a season when so many did poorly it's nice. In the attempt to give the long-tongued bee a black eye (or nose), well, he must try again. Of course, any bees, if their snouts were as long as the elephant's, could fritter away their season with the aid of the swarm fever. And I fear that everything which conduces to prosperity increases *a little* the danger of that undesirable condition. Page 775.

SELLING HONEY.

Lots of people are troubled over the difficulty of selling their honey after they get it. They should read the Buffalo Convention, pages 772 and 773—read it twice over. Hard cases if they can do that without getting some valuable ideas.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

A COLD.

That's what I've got. And it does make one feel very miserable. We can but marvel at the cold. We are one day hearty and vigorous, and the world seems full of cheer and delight. The very next day we are in the dumps, and everything seems different. And all this because of a "cold" (as we usually call it) that has stolen in upon us.

I have no reason to complain; for it is three years since I have had a cold before, if I except a spell of lagrippe which came into every household of Claremont, a year or two ago, and treated all alike. Isn't that one of lagrippe's virtues? It never shows any partiality.

The cold is like the wind which, as we know, "bloweth where it listeth; we hear the sound thereof, but know not whence it cometh or whither it goeth."

My cold of three years ago I could explain. It came as the result of necessary exposure. This one is more baffling. We are told that the Esquimaux, in their home land, are never troubled with cold. I have heard this explained by the suggestion that colds always come from microbe attack, and the Artic cold is so severe that the microbes would freeze up, and so are not known in the polar regions. I wonder if we won't find, some day, that every cold is the result of an attack from these minute germs. I ween that that will prove true.

This year I have three very hard days each week when my work carries me almost to the limit of my strength. I have wondered if colds are not very much quicker to steal in upon me at times of great weariness; at such times the whole body is below par in vitality, and as the thief could easily enter the house of the sick person and rob him of his valuables, so, mayhaps, these theiving microbes steal in upon us at these times of weariness, and further sap the entire body of its strength and vigor. If this is the correct explanation, then these little, worthless intruders must have a special fondness for the mucous lining of nose and throat. By the feeling, I could easily be presuaded that they had entirely stripped mine from the subjacent tissue. They seem to grip these parts with their invisible teeth, and we are disturbed with the feverish congestion. And how the mucous glands act as if they would have every microbe carried away.

I suppose the moral of all this is always to guard against exposure, and double the caution in times of great weariness. I wonder if all our home circles know of the value of the warm water compress at such times. A napkin wet in warm water is placed about the neck and chest, and thickly covered with several layers of warm flannel. This will often bring great relief to the fevered throat and nose, and will often check the coughing spell at night almost instantly. We have found the same remedy one of the best specifics against croup in children. Possibly the perspiration induced scatters the venomous microbes.

Warm flannels in cold and changeable weather, good rubbers in time of damp and sleet, and the warm overcoat

to force off the chill of autumn or winter, are excellent protective measures, and by their use I believe we may baffle these insidious microbes. I have been planning all day that by the use of these and other kindred measures I may in the future force out these great disturbers of our peace and comfort.

ROADSIDE TREE-PLANTING.

The whole county of Los Angeles is thoroughly waked up on the subject of shade-trees along the roadside. Last week a convention was held in the city to arouse interest, direct attention, and give advice in the matter of shade-trees. Surely, no one thing improves a region more, or attracts settlers more surely, than beautiful avenues of uniform shade-trees.

Shade-trees are not a thing of a day, and so fullest time for consideration is not unwisely spent. Insect attacks, which are so common with some of our most beautiful trees, should be thoroughly studied. The maple in the East is a beautiful tree, and often a favorite for street planting, yet the borer, cottony scale, and the forest caterpillar like it as well as we.

The elm, too, is a favorite with the cankerworm, and the imported elm-leaf beetle. Might not these trees be wisely replaced with the equally handsome linden, and we at the same time add a valuable source of nectar, which will attract the bees and gladden the bee-keeper?

The beautiful pepper in California, which is rarely excelled in grace or elegance, unfortunately attracts the black scale and so is likely to be banished from Southern California roadsides.

Species of acacia and eucalyptus seem very free from insect attack, and may be very beautiful if wisely selected, and in resisting drouth probably have no equal. Surely, we can not afford bare roadsides, and long avenues of trees all of one kind are so incomparably attractive that all our home circles should consider this matter, and then may well follow the example of Los Angeles County, California, and organize that no mistake may be made, and that every blow struck will tell for the most.

UNRECOGNIZED HEROISM.

I have been reading the past week some account of the life of the late Mr. Stevenson, the distinguished novelist, who, from his early life, had a grim fight with that terrible enemy—consumption. That he might better hold his own against it he pushed away off to the islands of the Pacific, where, far from home and friends, but not until he had made a most valiant fight, he was conquered. In all these years he was a tremendous worker. His forcible style and diction came not easily. Some of his works were written and re-written as many as ten times, and then cast aside as not worthy to be preserved. Is it any wonder that he reached the very top in his profession? To do this with disease and death ever close upon his track points him out as one of the world's great heroes.

It is also said that he was always sunny and cheerful. Friends and companions would never know that any grief or shadow ever entered his life. "To burn all one's own smoke," under such circumstances, is surely the supremest heroism. Those who knew him best also speak of Stevenson as winning almost beyond compare. Hero worship in this case was inevitable and Stevenson was the hero.

Few men can be thus winning, and preserve a really fine character. Stevenson did this. Perhaps the presence of death always staring him in the face gave to him his exceptional superiority. The following is one of Stevenson's beautiful prayers:

"The day returns and brings us the petty, irritating concerns and duties. Help us play the man. Help us to perform them with laughter and kind faces. Let cheerfulness abound with industry. Give us to go blithely on our business all this day. Bring us to our resting beds weary, and content, and undishonored; and grant us in the end the gift of sleep. Amen."

An Entering Wedge.

Give us a few samples on every route, rather than the full equipment of a part of them. That insures us steady work replacing the light weight boxes, as they fade away. Send for description and prices.

BOND STEEL POST CO., Adrain, Mich.

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ITALIAN QUEENS and the WARFIELD STRAWBERRY...

D. J. BLOCHER, Pearl City, Ill.

Ask for our price-list and testimonials.

As we are spending the winter in North Dakota, all our correspondence, whether social or business (until further notice) should be addressed,

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A Steady, temperate, American man, 47 years old, would like charge of an apiary, or as helper; 20 years' experience. Will do other work in connection. Will go anywhere. JOSEPH BURKE,
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The Sure Hatch is the incubator for the poultry raiser, whether farmer or fancier. Anyone can run them, because they run themselves. Anyone can own them, because the price is right. Machine and results guaranteed; you take no risk. Our Common Sense Brooder is the best at any price, and we sell it very low. Handsome catalogue containing hundreds of views and full of honest poultry information, mailed free. When writing address nearest office.

Sure Hatch Incubator Co. Clay Center, Neb. or Columbus, O.

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GENERAL ITEMS

Report for Last Season.

Of the 52 colonies which I placed in the cellar in the fall of 1900, I found, when returning them to the summer stands April 4, 1901, that two had died and one had only a few bees, which I gave to another colony. The most of the colonies were strong, but I had to feed some.

The honey-flow was short, and rain came too late for fall honey, but nevertheless I have shipped 2222 at 13 cents and 63 pounds at 12 cents. I sold 97 pounds at home at 14 cents, also 400 pounds of extracted honey at 10 cents, and have about 300 pounds left. I lost about 300 pounds of comb honey which the bees ate. The reason of this was, we had a spell of very warm weather during which I could not take off honey, as I cannot stand a great deal of heat, and so I was late in taking it off.

I placed 52 colonies in winter quarters Nov. 22.

I commenced bee-keeping in 1890. July 9th (the same year) I had a third swarm, but had very little honey in the fall. I fed them all winter with thin sugar syrup, with good results. I will write about this at some later time.

A certain bee-keeper handed me a book in which I read that if bees swarm in very warm weather give them plenty of shade. This same man lost quite a number of swarms

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

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World's Standard Hatcher.

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A Cool Million of

Snowy Wisconsin Sections

AND 1,000 BEE-HIVES

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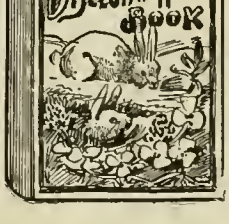
Standard Belgian Hare Book!

BY M. D. CAPPS.



THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

Price, in handsome paper cover, 25 cents, postpaid; or with the American Bee Journal one year—both for only $1.10.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

by flying to the woods, which might have been saved had he followed the above advice. At least I have always found it so. I put new oil-cloth on some and two boards on others of my swarms.

WM. DUESCHER.

Brown Co., Wis., Dec. 27.

Bee-Keeping in Oklahoma.

After marking down another failure in the bee-business in Oklahoma, I can say that though these be failures the American Bee Journal is not a failure. I shall not try to prolong the business any longer, but I am going where they can do something.

I have all the improved hives and appliances, but if there is no nectar one cannot have honey. I received a queen last summer and I introduced her just as nicely as could be. Three days after, she began to lay, and such a nice lot of eggs and bees no one ever saw; but just at that time the dry weather set in. What now? To-day I will have to feed them or they will starve. But I bought a swarm from a gentleman living two blocks from me, that came out the last of May, and, to my surprise, they have from five to seven frames filled from top to bottom, all sealed up. I sold this gentleman the comb foundation. I suppose they got in on the Texas horsemint before dry weather set in.

I have a lot of nice combs that I have carried through the past summer. I stack the hives one on top of the other with bottoms off, and in the last one on ton I set a tin cap or can, with two ounces of bisulphide of carbon, and close it up tight. It need not be bothered for a month. I do not think there is anything that will take its place.

G. W. MAUK.

Oklahoma Co., O. T., Dec. 20.

Some Michigan Bees and Honey.

My bees are all "runaway stock," that is, all came from bee-trees that I found in the woods. They seem to do fairly well in gathering honey. My best colony that did not swarm last season produced 190 full sections and 12 pounds of extracted—202 pounds. The best that did swarm cast three swarms. From the old colony I took 56 filled sections and 12 pounds of extracted; from the first swarm, 90 full sections and 12 pounds of extracted; from the second swarm, 30 full sections and 12 pounds of extracted; from the third swarm 12 pounds of extracted and 20 partly filled sections, and they have more than they can consume this winter. Thus, 176 full sections and 48 pounds of extracted—224 pounds, which I think is very well for poor colony.

I noticed what you said on page 803 (1901) regarding the person that found some "real honey" in Michigan last summer. Did you not score them rather hard? Down here in this part of Michigan we are using sections without comb foundation, and any person not a bee-expert, after partaking of this honey, would naturally think, when trying to masticate honey on comb foundation, that honey was all artificial and bogus. This person was undoubtedly mistaken, yet all bee comb and honey readily brings 20 cents per pound, while with the

OUR NEW CATALOG, describing and listing the **FINEST LINE OF BEE-KEEPERS' SUPPLIES IN THE WORLD,** will be ready about the first of the year. If you have not been receiving a copy annually, send us your name and address and one will be mailed you free. Prices will be same as last season with the exception of the narrow, plain sections with no bee ways, which will be 25 cents per thousand less.

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26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

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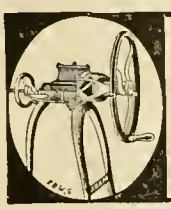

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THE GLORY OF HEALTH.

What is more pleasing to the eye than an athletic, clear skinned, deep chested man, ready to toil or play, with the free, easy grace of perfect health? The kind of man that goes singing about his work, because he feels that way.

WATKINS' VEGETABLE ANODYNE LINIMENT

will not make a lazy man muscular, but it will keep the body in such perfect condition that the food you eat, the work you do, will all help to build up a big, strong body. It is the cold in the chest, followed by a troublesome cough that breaks down so many strong bodies. A dose of Watkins' Liniment will stop it all before the harm has been done. **No running for Doctor,** no paying big doctor bills. Use internally or externally for **Colds, Coughs, Colic, Diarrhoea, Dysentery, Cholera Morbus, Indigestion, Cuts, Burns, Bruises, for man or beast.**

Watkins' Liniment is good for so many diseases because of the large number of valuable ingredients, each of which does its own work, and does not interfere with the others. Let our agent leave a bottle at the house. If there is no agent in your neighborhood, write to us, and we will see that you are supplied.

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We have a beautiful **Cook Book and Home Doctor** that we send free to all. It is full of valuable recipes and good wholesome advice. Everyone is surprised that we can afford to send out such a complete and beautiful book free. Write today. Send your name and address on a postal card.

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comb-foundation honey we can only get 15 cents. So let us have charity for the Michigan visitor while testing honey in the Chicago market.

Have you seen the new-style section? Bees will build the combs more true and perfect than with foundation furnished them, as there is no sagging, stretching, or warping of the combs.

D. H. METCALF.

Calhoun Co., Mich., Dec. 28.

Give Us Food and Air.

It is said that Indians don't like to live in houses because they cannot stand the enclosed air. Many a little bird will die when caged—not in want of food but in want of open air. Life is light. When the air is shut up it will cease to burn. Animal life needs, for the production of heat, one part of the atmosphere that is given free by plants, and the plants need that part which is given free by animals. Thus the atmosphere is always the same as long as the parts of it can be exchanged.

Animals or plants heavily fed need plenty of air, because the fresh air only helps to burn up the food, like it helps to burn up the oil in a lamp.

Now it is a fact that the physiological activity in plants, and the reproductive activity in animals, becomes dormant below 43 degrees, Fahrenheit. For this reason a colony of bees with about 50 degrees, Fahrenheit, will not require much food and not much fresh air; and for the same reason the supply of food and air must conform to the temperature.

As a rule the cluster of bees in winter has a temperature of about 70 degrees, F.; with this the respiration is decreased, but the bees cannot live entirely without fresh air. The supply admitted at the entrance is sufficient provided the bad air can pass off without any draft or condensation. The bees use up from the fresh air only one part, and give by breathing free another part that does not agree with their organism. Thus the air surrounding them becomes foul, if not renewed, and is converted into poison. The moisture it contains is condensed on the inside of the hive-cover, and the place of habitation becomes damp. The bees suffer badly, and if they are able to live until they have to go for pollen or water some day in April, they succumb under the influence of work and exposure. To remedy this the hives are ventilated; that is, in common practice the entrance is fully opened, or even the whole hive is raised on blocks at every corner. No doubt there is plenty of fresh, cold air to force out the foul air, and to dry up the moisture, but this rude attempt of ventilation is made at the expense of comfort. What would you think of a man who should attempt to ventilate his hen-house that way? No doubt there would be more fresh air in that house, or hive, than the inhabitants would like to have, and still they could have even more without a house or hive. Such rough treatment results in retarded activity when spring comes, if there is anything left of activity at all.

For ventilation in winter it is best to provide an air-space with absorbing material above the cluster which allows foul air and moisture to pass off. This can be done by means of a cushion with chaff placed in the super. The only trouble is that the super does not shut up tight, and the cover cannot be sealed up tight. Then, too, if you want to look after a colony only once in the whole winter you have to take up the whole roof from that little house and let the warm air out and the cold air in. With that movable roof you can not put the hives so close together that they shelter themselves. No, every hive is put up separately, with five sides exposed to the change of temperature.

The supply of food and air is dictated by climatic conditions, and an even temperature secured in any way whatever is therefore just as important as this supply.

Cellar-wintering with its troubles and vexations, is advocated and practiced by many for the benefit of an even temperature, which could be secured out-doors just as well as indoors, if our hives had not so many loose parts and were not opened on top. This feature, however, is so predominant that one might ask, Why did Langstroth invent movable hive-parts or movable frames? There is more comfort in a solid house than in a booth, especially for winter. A good shelter is a saving in food, and if the question of air has no relation to the pocket-book, the question of food certainly has.

J. VOLKERT.

Chesterfield Co., Va., Dec. 17.

Must Have Fine Honey in Chicago.

I have been reading those articles in the American Bee Journal about adulterated and manufactured comb honey in Chicago, with a mixture of amusement, indignation, and pity for those poor, ignorant fellows who have been trying so hard and long to find a pure article of comb honey in your city! You must have an exceptionally fine lot of honey in Chicago if they cannot find any that looks dirty and crooked enough to insure purity. Oh, my, just send those fellows out here to Tioga Co., Pa., where we have not had a decent crop of honey in three years, nectar being so scarce in the fields that bees could not complete a box of any kind of honey, but would patch it up with from two to three or even four different shades, and as many flavors, and capped yellow, black and almost anything except white. It is enough to convince the most incredulous persons of its genuineness, allowing that they judge honey by that standpoint. And even if they had their doubts it would take them the remainder of their days to analyze it and find out what ingredients it was composed of.

I think you people have raised the standard of your bees too high in perfection of comb-honey building. Better leave it on the hive a while longer, and let the bees run over it with their dirty feet and smear a little bee-glue on it; and possibly it would be better to put it on the market with the boxes all besmeared with propolis, then the earmarks of the bees would be more prominent!

I well remember, a few years ago, taking some nice white honey to the grocery, and a friend told me that after I went out a minister of the gospel came in and looked at the honey, and remarked that bees did not make that honey. It was too nice; it was man-

Successful Incubator (The Egg) Brooder (The Chick)

They take care of them. Mails loaded with words of praise from chicken people. Our great catalogue turns the limelight on the poultry business. Five different editions, five languages. English edition 4 cents, others free.

DES MOINES INCUBATOR CO., Box 78 Des Moines, Iowa, or Box 78 Buffalo, N. Y. Address nearest office.

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Controling the Mating.

We propose to control mating of queens in the following way, but it will be carried on in a limited way only, for the present:

We are perfecting plans to carry on the mating of queens in North Dakota. We have a spot selected that has no trees or anything where bees could make their abode, except a house now and then. There are no bees here, far or near, and there can be no question about the mating when we select our stock in Illinois, and send nothing but the finest to this place that has no bees. And as it is quite windy here, the chances are that nothing but strong-winged bees will mate. We shall try hard for the very best results.

D. J. BLOCHER, Deinbeigh, N. Dak.

4A1t Please mention the Bee Journal.

FREE Our handsome Garden Annual and Seed Catalogue. Send your address on a postal to-day, or for a 2c stamp and name of a neighbor who is an actual seed buyer, Catalog and a packet of the Large German PANSY if sent before March 20th. Address COLE'S SEED STORE, Pella, Iowa. **Seed**

WEEKLY GAZETTE,
PRACTICAL FARMER,
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WOMAN'S FARM JOURNAL—
4 papers one year—$1. Large clubbing list free
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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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SPRAYING with the "incomparable" **BORDEAUX NOZZLE** and our world's best outfit you are absolute master of the situation. Insects and disease fall before this all conquering outfit. See the book. It is free. Write for it now. THE DEMING CO., SALEM, OHIO. Western Agts., Henion & Hubbell, Chicago.

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HEADQUARTERS
—FOR—
Bee-Supplies.

ROOT'S GOODS AT THEIR FACTORY PRICES.

Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand.
The freights from Cincinnati are the lowest.
Prompt service is what I practice. Satisfaction guaranteed.
Catalog mailed free—send for same.
The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.
You will save money by buying from me.

C. H. W. WEBER,
2146-2148 Central Ave., CINCINNATI, OHIO.
Successor to Chas. F. Muth & Son and A. Muth.

ufactured. I have had a great desire ever since to preach that minister a sermon on bees and honey, but never had a favorable opportunity; perhaps I may some time.

We have had a very severe winter so far. Bees have had only one partial flight since the last days of October.

I fear what few bees are left in this section will succumb before warm weather again makes its appearance.

I enjoy reading the American Bee Journal and hope it will continue to prosper, and gain in circulation as it deserves. I wish I could send a whole lot of new subscribers.

A. D. WATSON.

Tioga Co., Pa., Dec. 27.

Adding Supers Above.

I may say that this year all my supers of sections were added at first *above* the others, and rather in advance of the bees' requirements. Only when these last were taken to voluntarily by the bees were they removed below the partly-filled ones. It is more than a theory with me that this is a great aid to success, and I have generally practiced it in very hot seasons, as I find that it prevents loafing, acts as a cooler, assists ventilation, and thus acts as a preventive, or, at least, a deterrent of swarming.—D. M. M., in the British Bee Journal.

A Plan of Uniting Colonies.

About the middle of September I examine all hives and mark those which are not in a populous condition. These I strengthen by reducing the number by doubling up. All other things being equal, I select, for wintering, the colonies which have sent forth swarms, and consequently have young queens. I take two colonies, and if the colony to be united has a greater supply of good winter stores than the colony to which it is to be added, I exchange the combs one by one, and give the colony whose queen is to live the better combs. I then kill the queen of the colony to be united with the one having the good queen, and after giving each hive a thorough smoking, place an empty super-body above the colony to be spared, and upon this place the queenless colony. The smoking seems to destroy the distinctive odor of each colony, and the bees from the upper hive readily unite with those having the queen, and all settle in the lower hive.

After two or three days I uncap the honey in the upper hive, and the bees of the united colonies carry all the honey into the lower hive. The bees live in perfect harmony, and with their increased numbers and greater store of honey, winter far better and gather more honey the next season than would the two colonies wintered separately. In this manner I have united more than 50 colonies, and in only one instance did I have disastrous results. These were caused by the fact that there were two queens in the upper hive, a condition of which I was not aware until about half the bees were killed. It sometimes happens that when the queen is old the bees will rear another, and allow both to remain in the hive until spring.—FRED HAXTON, in the Progressive Bee-Keeper.

Do Bees Hear?

A. H. Homersham (in the British Bee Journal), quotes Mr. Loveday and Mr. Sladen as saying that no evidence can be found that bees hear, and says:

My own experience goes to prove that bees cannot hear, or else they take no notice whatever of sounds. I have whistled and shouted and screamed as loud as I could within six inches of the flight-board, but all my efforts to attract attention were in vain. I made a special effort in shouting loudly one evening in midsummer, after all the bees had returned from the fields, but the peaceful hum of a full colony undisturbed went on. I then gently touched the alighting-board—an almost imperceptible touch—and instantly the humming stopped and a dozen or more bees were scouting about the entrances to find the cause of disturbance. Thus, while noise was unnoticed, the slightest jar was at once detected. I have watched several times to see the effect railway trains had on bees when shunting, or the whistling and rush of an express passing by, but all passed unheeded. I have also tried various experiments on bumble-bees, but without effect, so that I have quite convinced myself, and proved to my own satisfaction, that bees cannot hear.

Management with Two Stories.

You say, Mr. Editor (page 897), that you sometimes leave two stories of brood-combs when putting on supers. I

YOU'LL HATCH EVERY EGG that's fertile, if you get a
HAWKEYE Incubator,
and you may try it before you pay for it. $10 buys our latest pattern. 3 walls, copper piping, safety lamp and perfect regulator. "Profitable Poultry" (handsome oil painting cover) free. Send 10c for catalogue and poultry paper for one year.
Hawkeye Incubator Co. Dept. 17 Newton, Ia.

Please mention Bee Journal when writing.

WE DON'T SAY
that The PAGE is the best fence, but we would like to see another as good. Did you ever?
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

WHAT OUR PATRONS SAY
Get 50 chicks from 50 eggs often.
HATCH EVERY GOOD EGG EVERY TIME.
Never gets out of order. Needs no attention at night. Regulates perfectly. Best on earth.
Catalogue BUCKEYE INCUBATOR CO., No. 53, 2c. Springfield, Ohio.
50 Egg Size $5
30 DAYS TRIAL

SWEET CLOVER
And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

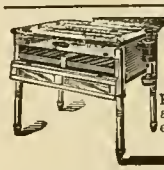
	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.20	$2.50	$4.50
Sweet Clover (yellow)	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	4.00	7.75
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.


200-Egg Incubator for $12.80
Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

45A26t Mention the American Bee Journal.

BEE-SUPPLIES!
Manufacturers' prices. Complete stock. Send for our catalog.
FRED. W. MUTH & CO.
S.W. Cor. Front & Walnut Sts. CINCINNATI, O.
Please mention Bee Journal when writing

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—
The Pacific Rural Press,
The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.
PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.

Langstroth on... The Honey-Bee
Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

Hot Water and Hot Air.
Satisfied People.
That's the kind that run the
MARILLA
Incubators and Brooders.
If they are not satisfied we refund their money. Larger hatches, perfect system of regulating temperature, moisture and ventilation. All these points explained in our catalog. Sent for two 2c stamps.
MARILLA INCUBATOR COMPANY, BOX 3 ROSE HILL, N. Y.
Please mention Bee Journal when writing.

wish you could tell us how the yield compares with that of the colonies that have the one story removed. I tried it pretty thoroughly, and was obliged to give up sorrowfully that I couldn't get as much surplus with two stories as when I took one story away. [If the two colonies are the same in strength, then the one that is contracted down to one story would, of cours , have more honey. But if one colony is so strong, so boiling over in bees that it could not be squeezed down into the brood-nest of a single hive-body, then I should expect more honey from that colony than if we tried to squeeze it into one brood-nest and then made it get the loafing or swarming fever.—Ed.]—Stray Straw in Gleanings in Bee Culture.

Cyprian Bees in England.

In July last year I bought an imported Cyprian queen which turned out very prolific, and her progeny were very bright and pretty. The colony wintered well, and came out last spring overflowing with bees, and kept up the same condition all the summer. Indeed, it appeared stronger than any colony of bees in my apiary, and yet every one of my 160 colonies yielded me more surplus than the Cyprians. I really do not believe that I got ten pounds of honey from them; and only the other day I found the colony so nearly starving that I had to give the bees a large cake of candy to keep them going. On the other hand, they are good-tempered if handled properly. I do not prefer to use either smoke or carbolic acid when manipulating them. They are also first-class defenders of their own hives, but will find their way into other hives and stay there, but not a single black bee will be allowed in their hive. They are also the most inveterate "robbers" I have ever seen, and are always the first to find any "spoil," but I do not know where they put their ill-gotten gains, for, although I have tried several kinds of foreign bees before, none have been, with me, such poor honey-gatherers, and it is honey that we want and not bees.—John Berry, in the British Bee Journal.

Cyphers Incubator Catalog for 1902.—All who have seen a copy of the magnificent catalog issued a year ago by the Cyphers Incubator Company will be interested to learn that this company's catalog for 1902 is now ready for mailing, and is a distinct improvement over their great book of last year.

This new and complete catalog consists of 196 pages and cover, is 8x11 inches in size, and weighs over one pound. It contains a complete description of the Cyphers patent-diaphragm, non-moisture, self-ventilating incubators, with fine color-plate reproductions of all sizes of the Cyphers incubators. It contains also an illustrated description of the Cyphers apartment brooders, and the full line of poultry appliances manufactured by this company. In it will be found beautiful half-tone pictures of over 200 of the largest and best known poultry plants of America, Canada and Europe, where the Cyphers incubators are in use.

The Cyphers Incubator Company is now completely installed in its great factory at Buffalo, N.Y. The company also has offices and salesrooms in Chicago, Boston and New York City, and is in a position therefore to serve customers to advantage in all parts of the country at a saving of time and money in shipping by freight.

All who are interested in the latest developments in incubator and brooder manufacture should secure a copy of the Cyphers Incubator Company's complete catalog for 1902. See advertisement elsewhere in this paper. Kindly mention the American Bee Journal when writing.

CONVENTION NOTICES.

Wisconsin.—The Wisconsin State Bee-Keepers' Association will hold its annual convention in the State Capitol, at Madison, Feb. 5 and 6, 1902. This promises to be a large convention. All are invited to attend. There will be excursion rates of 1¼ fare for the round-trip, good for all of the first week in February.
N. E. France, Pres. Ada L. Pickard, Sec.

New York.—The annual meeting of the New York State Association of Bee-Keepers' Societies will be held in the parlors of the Kirkwood Hotel, Geneva, N.Y., Wednesday, Feb. 5, 1902, commencing at 10 a.m. All interested in bee-culture are cordially invited to be present. Subjects of importance are to be brought before this meeting, and it is desired to have a large representation of bee-keepers in attendance.
C. B. Howard, Sec., Romulus, N. Y.
W. F. Marks, Pres.

Utah.—The Utah State Bee-Keepers' Association will hold its annual convention in the City and County Building, Salt Lake City, April 5, 1902, at 10 a.m. This promises to be an interesting convention. All are invited. It is desired to form an exchange for the protection and benefit of our bee-keepers. Come and aid a good cause. It is expected that every county will be represented. J. B. Fagg, Sec.
E. S. Lovesy, Pres.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., Chicago
33Atf Please mention the Bee Journal.

Wanted—Honey.
Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
31Atf Fairfield, Ill.
Please mention Bee Journal when writing

The Hawkeye Incubator.—We are glad to call the attention of our readers to the advertisement of the Hawkeye Incubator Company, of Newton, Iowa, which appears in another column of this issue. While this concern is not the oldest in the business, their large capital, splendid machine, judicious advertising and fair dealing, have united to build up a very large business in a remarkably short time. Their proposition is a most liberal one, and we are informed that their catalog will be one of the most beautiful poultry books ever issued, and one of the most practical as well. Write them to-day, and mention the American Bee Journal.

ALFALFA
Extracted Honey,
In 60-pound Cans.
4 cans at a time, 7 cents a pound. See another advertisement on second page.
GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.25 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

Please mention Bee Journal when writing advertisers.

HONEY AND BEESWAX
MARKET QUOTATIONS.

Chicago, Dec. 21.—The honey market is of a slow nature with little change in price of any of the grades. Choice grades of white comb honey, 14½@15c; good to No. 1, 13½@14c; light ambers, 12½@13c; dark grades, including buckwheat, 10@12c. Extracted, white, 5½@7c; amber, 5¼@5¾c; dark, 5@5¼c; the scale of prices varying according to flavor, body and package. Beeswax steady at 28c. R. A. Burnett & Co.

New York, Jan. 9.—Comb honey continues in good demand with supplies pretty well exhausted, and we quote: Fancy white, 15c; No. 1, 14c; No. 2, white, 13c; amber, 12c; dark, 10@11c. Extracted dull with large supplies and quotations on large lots generally shaded in order to effect sales. We quote: White, 6½@7c; amber, 5½@6c; dark, 5@5½c. Beeswax firm and rather scarce at 28@28½c.
Hildreth & Segelken.

Boston, Jan. 4.—Comb honey is in good supply and not working off as well as we would like to see at this time of the year. Prices are ranging as follows: Strictly No. 1, 15@15½c; No. 2, 14c. Extracted, white, 7@7½c; light amber, 6½c. Blake, Scott & Lee.

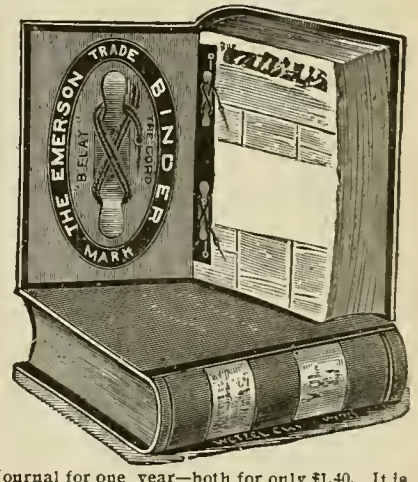
Detroit, Dec. 20.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.
M. H. Hunt & Son.

San Francisco, Jan. 8.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.
Spot supplies are of very moderate volume, with demand for the time being not particularly active. Offerings are not being crowded upon the market, however, and prevailing values are being as a rule well sustained.

FARM RAISED POULTRY
PAYS BEST. Always strong and vigorous and breeds healthy stock. We ship only farm raised stock. Get our new Poultry Guide and make big money with poultry. Worth $25, but sent for only 15c.
JOHN BAUSCHER, JR., BOX 94 FREEPORT, ILL.

15 Volumes of the American Bee Journal for sale. All complete except a single week's copy missing. Address,
Daniel Wyss, New Philadelphia, Ohio
2A4t Please mention the Bee Journal.

The Emerson Binder
This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee



Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

A New Bee-Keeper's Song—

"Buckwheat Cakes and Honey"

Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

GEORGE W. YORK & CO.
144 & 146 Erie St., - CHICAGO, ILL.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

24th Year **Dadant's Foundation.** 24th Year

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS, PATENT WEED-PROCESS SHEETING.

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

"FACTS."

Root's Catalog Now Ready

It is a fact that Root's Catalog for 1902, the 91st edition, contains information valuable to EVERY bee-keeper, whether he has one colony or a thousand colonies. The catalog is ready for mailing, and will be sent free to all applicants. If you will give us the names and addresses of 10 or more bee-keepers, we will send you in addition our 40-page semi-monthly journal, GLEANINGS IN BEE-CULTURE, for 3 months free.

Root's Extractors — It's a fact that Root's Cowan Honey-Extractors are acknowledged by far the best extractors on the market. You will make a mistake if you take one represented to be "just as good." Our designs are the best, we use the best material, and our workmanship ship is unsurpassed. Insist on "Root's" Cowan.

Danz. Hive — It is a "Fact" that the DANZENBAKER HIVE for Comb Honey, is acknowledged by ALL who have given it a fair trial, the best hive for comb honey.

Gives Best Yields — It is a fact that bee-keepers using the Danz. hive get better yields from this hive than any other hives in their yards.

Higher Price for Honey — It is also a fact that the honey in Danz. Sections generally sells for a higher price, and always finds a ready market. We have yet to learn of a bee-keeper having comb honey in Danz. sections who had to hold his honey because of a dull market.

Agencies — It is a fact that Root's Goods are in demand everywhere. For this reason we have agencies all over the United States and upward of 25 foreign countries. A full list of agents sent on application.

Low Freight Quick Delivery — It is a fact that we are able by these agencies to furnish our goods quickly, and at low cost of transportation.

Facts About Bees — "Facts About Bees," 7th edition, revised, is now ready. Full of information, and sent to any address for a 2 cent stamp, or free if you mention this paper.

The A. I. Root Company,
MEDINA, OHIO, U. S. A.

GEORGE W. YORK & CO., 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

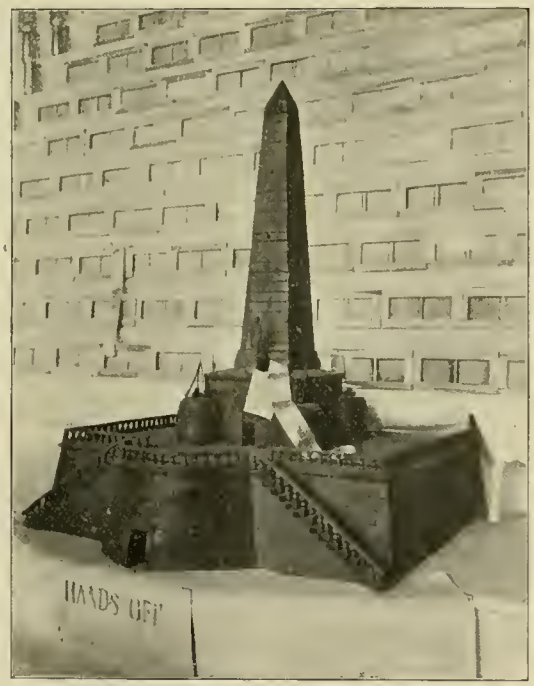
AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JANUARY 30, 1902.

FORTY-SECOND YEAR
No. 5

WEEKLY



COMB HONEY DISPLAY AND LINCOLN MONUMENT IN BEESWAX SHOWN BY JAS. A. STONE & SON, AT THE ILLINOIS STATE FAIR AT SPRINGFIELD, IN OCTOBER, 1901.—(See page 68.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

EDITORIAL STAFF.

GEORGE W. YORK, - - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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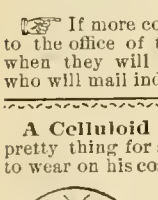
MEMBERSHIP DUES, $1.00 a year.

☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Alfalfa Honey--7 cents a pound in lots of 4 cans or more.

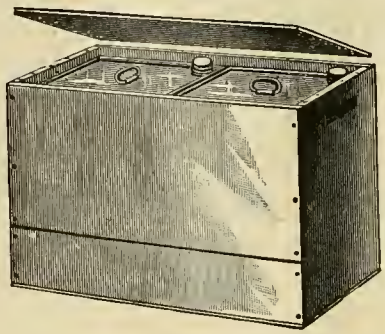
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

(THIS CUT IS THE FULL SIZE OF THE KNIFE.)

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞ Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JANUARY 30, 1902. No. 5.

Editorial.

The California Convention was held in Los Angeles, Jan. 16 and 17. The following officers were re-elected:

President, G. S. Stubblefield; secretary-treasurer, J. F. McIntyre; vice-presidents, G. W. Brodbeck, H. E. Wilder, G. F. Merriam, M. H. Mendleson, and H. C. Williamson.

A Los Angeles newspaper report refers to the convention in part as follows:

It was decided to organize the business end of the Association on the plan of the Southern California Fruit Exchange, and to dispose of the honey crop through the latter's selling agencies, thus saving the association the extra expense of conducting independent agencies.

Each county will be organized into a separate exchange, each to elect one of its number to become a member of the Southern California Honey Exchange in this city, which plan centralizes the business here.

The following apiarists were appointed to organize their separate counties: Solas Wood, Santa Barbara; J. F. McIntyre, Ventura; R. B. Borden and R. G. Clark, San Diego county; E. A. Honey and Emerson Bros., Orange county; C. B. Schwaek, Riverside; D. A. Wheeler and H. C. Williamson, San Bernardino; Frank McNay, Los Angeles.

J. F. McIntyre, Maj. G. H. Marion and Prof. A. J. Cook, were elected as the Executive Committee. E. A. Honey, Frank McNay, T. F. Arundell and Allen Barrett were afterward added to the committee.

By organizing on the basis of the fruit exchanges, and disposing of their honey just as fruit is now marketed, the bee-keepers hope to work together in the upholding of the price of their product, and to help each other through the present dry and unprofitable season.

Read Up Back Numbers.—If you are like most bee-keepers, you are busier in summer than in winter. Often it happens that in summer the bee-keeper is so busy that when he receives a copy of this or any other bee-paper, his reading is more or less hurried, and sometimes the reading of some articles or parts of them are omitted altogether, because they do not seem at the time of immediate interest. When leisure comes for more reading in winter, it is well to go over back numbers, not only to read what may have been entirely omitted, but what may have been read in such haste as not to receive due consideration. Indeed, you will find many a time, that what you supposed was of no interest at first will be found later on to be of great practical interest. Then, too, the things that you read with care will generally bear reading again. An article that you read last June, may, because of something that you have since learned either in practice or from reading, have such a different bearing that it will be practically new to you.

This advice will not be needed by those who are well to the front as bee-keepers, but to those who have not been in the habit of giving more than one reading to each number of the bee-paper they receive it may be well to suggest the advisability of trying the experiment of giving at least a second reading to them.

Wrong Spraying Advice.—Mr. John M. Sutton wrote us as follows, Jan. 18:

EDITOR AMERICAN BEE JOURNAL—

I have recently received from the Government, Farmer's Bulletin No. 38, or "Spraying for Fruit Diseases." This is a *reprint* originally published in 1896. On page 11, I find the following:

"Use bordeaux mixture, making the first application before the blossoms open. When the flowers are opening spray again, etc."

It seems to me this is in direct opposition to the present teachings, and should be corrected. I am sorry to see it in a Government publication. JOHN M. SUTTON.

Certainly, all that is necessary is to call the attention of the Department of Agriculture's attention to its contradictory advice, when it will hasten to make proper correction. It is a good thing to report such matters when discovered, as even the Government sometimes makes mistakes.

Meltose Again.—Eugene Secor, the general manager of the National Bee-Keepers' Association, wrote us as follows recently.

FOREST CITY, IOWA, Jan. 18, 1902.

EDITOR AMERICAN BEE JOURNAL—

Dear Sir:—Mr. F. L. Thompson, of Colorado, sent me, Dec. 14, 1901, a circular of a health food company doing business in that State, and called the attention to one paragraph which was objectionable to bee-keepers. I wrote the company and herewith submit the correspondence in full.

Respectfully yours,
EUGENE SECOR, *Gen. Man.*

Here follows Mr. Secor's letter to the health food company, dated Jan. 3:

GENTLEMEN:—I have your folder on health foods, and am glad to commend your general Pure Food Proposition. We have used a good deal of Battle Creek foods with satisfactory results.

But I notice under the paragraph describing "Meltose" these words:

"It should be substituted for *Cane-Sugar Honey* and all artificially prepared sweets."

I wish that this sentence might be altered slightly, as it conveys a wrong impression to would-be users of honey.

The fact is there is no such thing on the market as *cane-sugar honey*. It would not *pay* to adulterate with cane-sugar. The adulterations of honey are exclusively, I might say, of glucose, and in the extracted form.

Comb honey may be relied on as *pure*, or as natural product gathered by the bees.

Now can't you eliminate the word "honey," or add the word "adulterated" after the word "sugar," followed by a comma?

Make all the war you please on adulterated honey, but it is misleading to call it *cane-sugar honey*.

May I ask your reconsideration of this point? Sincerely yours,
EUGENE SECOR, *Gen. Man.*

Whereupon the company written to responded as follows, under date of Jan. 6:

EUGENE SECOR, Forest City, Iowa.—

Dear Sirs:—We have your letter of Jan. 3d, in regard to a misleading thought in our circular. Meltose is a pure product, and is designed to take the place of cane-sugar, and artificial sweets. Honey is a natural product, perfectly pure, and we do not class it among sweets that are harmful. On the contrary, we use it on our own tables very freely. The word *honey* should not have gotten into the circular, and was an oversight. We will see that the misleading thought is corrected.

Thanking you for calling attention to the matter, we are, Yours very truly,

The above is just the kind of work the National Association should be doing constantly. It is educative. It is a benefit to the public to have such corrections made, and also a ways helps the cause o pure honey and its producers.

But why cannot bee-keepers themselves, from this time on, be on the lookout for misleading statements about honey, and write to the people who make or publish such errors regarding honey? A few of us can not do it alone, but all must help in the work of letting the public know more about pure honey.

Maeterlinck's "Life of the Bee," which at first was received almost as a work of perfection, is of late having its faults noticed. D. M. M., in the British Bee Journal, says, "I have only words of praise for Mr. Maeterlinck's book;" and then with what can hardly be entire consistency immmediately adds:

"I would, however, much prefer if it had not contained a single word of the moralizings of his physiologist friend. This is an excrescence, pure and simple, which could well be lopped off."

Then he enters a somewhat emphatic caveat against the view of the author that the peasantry are filled with malevolence pure and simple.

Are Commission Merchants Dishonest as a class? In the Progressive Bee-keeper G. M. Doolittle answers this question in the negative. For 25 years he has shipped honey to commission merchants, shipping to as many as 25 different ones, and he thinks "commission men as a class compare favorably with any other class of men in the United States."

Weekly Budget.

JAS. A. STONE & SON make annual exhibits at the Illinois State Fair. On the first page and also on this page is shown the display they made at the last Fair. All the Lincoln Monument lacks is the statuary. It was made by the son, "Percy," and must have involved considerable work. Both the comb honey display and the monument received the 1st premium, or blue ribbons. as, apparently, they well deserved.

The Illinois State Fair has had fine displays in its apiary department for several years. While the number of exhibitors has not been large, the displays have been both large and good. In fact, this department is one of the most attractive of the whole Fair, and Jas. A. Stone & Son have contributed no little to this result.

MR. J. B. DODDS, the bee-inspector for Jefferson Co., Colo., has been in Chicago for about two weeks. He came with a car-load of No. 1 alfalfa comb honey, which he was holding at $3.00 per case. A dealer here purchased 100 cases of it, and found that it weighed all the way from 17½ pounds to 24½ pounds, net, of honey per case. So the lightest cases cost about 17 cents per pound, while the honey in the heaviest cases cost about 12 cents. While it may have been all right to sell or buy the 100 cases, as a lot, by the case, any one may easily see the injustice it would be to the consumer were a case of the lightest sold to him at the same price as a case of the heaviest.

As the 100 cases averaged practically an even 20 pounds net per case, there was no injustice done the buyer or seller of this particular lot.

A GREAT MAP.—Calvin L. Walton, Ph. D., is a professor in the Lake View (Chicago) High School, and an instructor of marked ability. He has one of the maps that we are offering, and he expresses his opinion concerning its value in the following unsolicited manner:

DEAR EDITOR YORK:—For some time I have been waiting for a good opportunity to tell you how much we appreciate the Reversible Wall Map of the United States and the World, but find none better than the present. I say *we*, not in any editorial sense, but in a broad family way, meaning the entire household.

In the first place, the maps are very attractive in appearance. The bright colors will catch the eye and hold the attention of even the smaller children of the home, and they are studying geography before they know it.

In the second place, it is up-to-date and thoroughly reliable. The publishers have too good a reputation to maintain to allow any faulty or inaccurate map to go from their press, so whatever knowledge the boys and girls get from the study of these maps will not be gainsaid anywhere.

In the third place, there is a whole encyclopedia of geographic information on the two sides of the map. In country homes, where reference books are few, the marginal references will be found very ample and complete, so that when the map is thoroughly mastered one will have a very broad and comprehensive knowledge of geography and geographic history. The ocean currents, which have such an influence on the distribution of temperature, and which exercise such a general climatic control, are clearly defined and easily traced. Then the routes of the ocean vessels are graphically shown, and one can see at a glance the growing need for a deep-water isthmian canal to connect our eastern and western coasts.

The most convenient place for hanging the map temporarily was the dining-room; and as we occupy but three sides of the table, the map was hung where all could see it, especially nine-year-old Arthur, who is studying geography in the public school. During mealtime the conversation generally gets around to some phase of geography or travel, owing to the presence of the map, and we find it infinitely better to talk about foreign places and people than about the bloek in which we live and the good (?) neighbors all around us.

I would most heartily recommend the map to every member of Prof. Cook's "Home Circle," (that includes every reader of this journal), feeling confident that the nominal price asked for it will indeed seem small when compared with its actual value and its educational influence in the home.

C. L. WALTON.

We believe Prof. Walton has not said a word too much in commendation of the map. It is indeed a fine one, and should adorn the walls and instruct the people of every home. The price of the map alone is $1.50 prepaid, or, if taken with a year's subscription to the American Bee Journal, both will be sent for only $2.00. If we ever made a good offer to our readers it is this one. It shows *all the counties* of every State of the United States.

DISPLAY OF JAS. A. STONE & SON AT THE ILLINOIS STATE FAIR AT SPRINGFIELD, IN OCTOBER, 1901.

MR. R. RODENBERGER, when sending the picture of his apiary shown on page 78, wrote as follows:

In the spring of 1895 I caught the bee-fever; so I bought two colonies of bees in box-hives and transferred them into new ones which I had made the previous winter. I now have all hives and frames exactly alike, and all numbered as will be seen in the picture, which was taken two years ago. I now have 51 colonies.

Before I began with bees, I did not know the least thing about them, but got several text-books on bee-culture and have read everything I could get hold of ever since.

I sold my home last fall in Waukesha County, and bought a farm in Milwaukee County, where I am now located. I successfully moved my bees on one load, Nov. 15, a distance of 25 miles. I expect this to be a better location, as there is a great deal of sweet and white clover as well as basswood and golden-rod.

Considering all things, I have done fairly well, I think. I owe most of my success to the reading of bee-literature, especially the "Old Reliable" and other papers. Long may they live to proclaim the wonders of beedom, and speak for truth, temperance and righteousness.

R. RODENBERGER.

THE MEXICAN MUTUAL PLANTERS CO., writing us from Old Mexico, Jan. 8, reported that bees there were "doing well, queens laying, pollen coming in, and comb-building going on splendidly." Quite a difference between the condition of bees there and in Manitoba, Canada, on the same date.

MR. WM. W. CASE, of Hunterdon Co., N. J., is doing some good work in his locality to down the comb-honey lies that some people have been helping to circulate. In the Hunterdon County Democrat, under date of Dec. 31, 1901, Mr. Case has quite an article which includes the $1,000 reward offered, and a statement of how the comb-honey lie was given to the public by Government Chemist H. W. Wiley, about 20 years ago.

It seems that Mr. J. S. Trigg, of Iowa, (see page 35), conducts a farm department in the paper Mr. Case wrote to, and the editor, in introducing Mr. Case's article, says Mr. Triggs signs his name and address, "and we have no doubt that he will either prove he is right or admit that he has been led into a misstatement by being misinformed."

We understand Mr. Triggs has since then done the handsome thing by admitting his error, and is doing all he can to counteract its mischievous effect. As soon as we see Mr. Triggs' correction we will place it before our readers.

But let all get "The Truth About Honey" published wherever they can.

H. W. CORNELISON reports that he started last spring with 93 colonies of bees and got 4,000 pounds of honey, for which he received $475, and an increase of 25 colonies of bees, not counting the honey his family consumed. —Washburn Co., (Wis.,) Register.

Contributed Articles.

No. 5.—Apiculture as a Business.

Producing Not All; Marketing a Large Problem—Difference Between Selling at Home and the Foreign Trade—Effect of Competition.

BY R. C. AIKIN.

In No. 4 I called attention to some reasons why bee-keepers fail in getting a crop and of making it pay, thus causing financial failure and bankruptcy, and the direct and indirect effect upon others. I now wish to show how, in large measure, to avoid these expensive failures.

First and foremost, remember that there are many people—bright and sharp people—who are giving time, money and energy to discover short cuts, cheaper methods of production, and in every way possible increase profits. When they succeed in very materially lowering the cost of production, whether it be by labor-saving devices, improved stock, methods that get 3 pounds of honey where but 2 used to be gotten, better marketing schemes, it matters not whether by all these combined, or how the product is cheapened, they can and will make it hard for the less experienced. If one proposes to go into any business, he should ask many questions, observe how others are accomplishing results, and whether the results are satisfactory. Try as hard as we may, and learn all we can from all sources, yet we will be behind—some other fellow outwits us.

Suppose some one wants to go into honey-production at this place. Suppose he finds out just what prices I get at the honey-house, and the wholesale prices at which I supply the stores. Knowing these things, is he ready yet to produce, expecting to sell his product upon this market? No; he has yet a large problem before him. He may be my equal as an apiarist, get as good crops, pack just as well, in every respect be my equal up to the point of having a nice product to sell; he then finds I have the trade, and if he gets it he has quite a job on hand. He must advertise, push and work up a trade.

So far I have been speaking of the local or home market. The facts are that I am now producing much more honey than our local market consumes, and in addition ship out large quantities. If any other apiarist opens a producing plant here he may in time divide my home trade with me, causing me to export more.

One fact must not be lost sight of in a producing field like this—the home consumption will not use the entire product, we *must* export the surplus. And, to increase the home consumption, we must lower prices if we are to sell the greatest *possible* amount at home. I do not mean that this is the only way to increase consumption, but that is one of the things that must be done to reach the highest possible home consumption, or outside, either. We may sell, say at 10 cents, and after having exhausted all other means a 2-cent drop will further increase the consumption. Putting the price on an equality with sweets of equal grade, or a little lower will bring the product into favor and displace more or less the other goods.

The real truth of the matter is, the marketing of a crop of honey is about as big a job as producing it. In producing, we have but the bees and ourselves to deal with, but in selling there is a multitude of people to please. One may be well fitted to produce, an expert with insects, yet a failure in dealing with his own kind. There is no use denying or ignoring the fact that to produce any kind of crop is but little better than half the battle. Every prospective apiarist should not only consider the matter of producing, but as well, how to market or get cash out of his product.

The home market is nearly always the best; it usually nets the most money; so much is sold that we do not have to supply a package for, nor are there any freights or middlemen's commissions to come out. At home we know better whom we are dealing with, less risks than when we ship, unless there is a firm sticking to the cash-with-order rule. Successful home marketing is no easy matter; and away from home is harder still.

Some men can come into the field fully occupied, and, because of superior ability, or an advantage in facilities, or otherwise, drive out competitors. But only those without a proper moral conscience will do so; there should always be fairness in such things—in all things. There is, in this vicinity, some territory that would bear more stock, but the near-by and desirable places are already full. No one should think of coming into or very near to this town to engage in honey-production except by buying out some one already established; to do otherwise would be foolish, and an injustice to others now here. To put more stock into territory now well-stocked would reduce the yield per colony. It would mean that we must produce at a greater cost, and to make up for this we must sell greater quantities or at higher prices; but the rule is that it would be just the other way.

But let us see what else can be done: As I have said, there is country tributary to this that will produce more than is being taken from it—places that are not overstocked. But to occupy these one must go into undesirable places to live, or, living in the more desirable places, must have his stock far from home and transport long distances, going far to work, and having far to haul. Besides this, there are the outside or general markets to contend with, the product must be largely exported—shipped to large centers of distribution, as Chicago, Kansas City, etc.

Considering these outside markets, Kansas City is the nearest to this point of the United States. Denver is not a honey market in the sense that Chicago or Kansas City and other Eastern cities are. The immediate vicinity of Denver produces more than the city consumes, and so does the country over much of which Denver is a distributing center. Denver cannot be a distributing center for any great quantity of honey, although she does, and will, sell much by car-load sent to Eastern markets. This being true of Denver, the Colorado apiarist in any field that produces more than the *immediate* home consumption, must look to wholesale shipments by car-load to dispose of his surplus. These car-load shipments mean competition with the producers in the country to which we ship, or who are nearer to the consuming point; these near-by producers having the advantage by the amount of the difference in freight.

Of course, there will be many readers to whom all Colorado conditions do not apply, yet some of them will, and I am trying to cover the whole field and make this reach the greatest number of people.

I would say, then, do not fail to look carefully at all the various things that you must confront when you embark in the business. Let those who are in contemplation count well the cost, and as well let those now in the business see if they cannot find where they can improve. I write that, if possible, I may help those going into the business to go in right, for an intelligent and successful apiarist cannot begin to do the harm to *self and others* that is done by the careless and blundering.

I have already shown in previous articles that it takes a real, practical apiarist to succeed in getting the crops; and now in this article I am endeavoring to show that you need, and must have good marketing, or you fail. Consider *well* all these phases ere you jump. I will follow this with more of the minute details of management. Larimer Co., Colo.

Some Interesting Questions Answered.

BY G. M. DOOLITTLE.

A correspondent from Mohawk, N. Y., sends in the following questions, asking that I answer them in the American Bee Journal, and requests if any reader of this paper can throw any more light on the subject, that he will also answer them after they appear in print. Thus answering would be something after the old question or "query" department the American Bee Journal used to conduct, and I hope to hear from others who may have different opinions from mine.

GETTING HONEY FROM CAPPINGS.

1. "What is the best way to remove honey from cappings which will not run out?"

In my opinion the *best* way is to throw the cappings into the solar wax-extractor and allow "Old Sol" to look in on them for two or three hours. Then cover up, and the

next day lift the cake of wax off the honey, when you have both wax and honey in shape to use.

2. "Could these cappings be pressed in a cheese-press? If not, why not?"

I am not enough acquainted with a cheese-press to answer intelligently; but my judgment would be that the result would not be satisfactory; and that when the press was used for cheese again there would be some "tall talk" about that "nasty, sticky press." Rather than do that, I would rinse the cappings in water, and use the water for making vinegar.

UNCAPPING MACHINES.

3. "Do you know how Arthur C. Miller's uncapping machine is made?"

No, I do not know. If there is no secret about it, will Mr. Miller tell us about this matter through these columns?

PLACING COMBS IN THE EXTRACTOR.

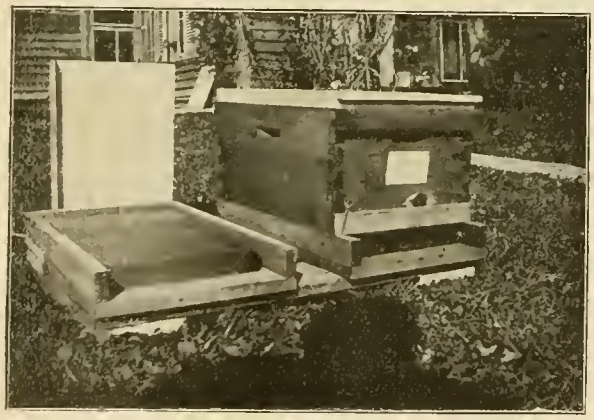
4. "Would a honey-extractor work if the combs were placed with the top-bar toward the center shaft and the bottom-bar out toward the side of the can? If not, why not?"

If I am correct, the honey-extractor works on the principle, that, when set in motion, the centrifugal force is greater than the atmospheric pressure on the honey in the cells, and this causes the honey to leave the cells, or fly from the cells, out and away, from the center, the same as water leaves a rapidly-turning grindstone and flies off and away from the stone. With the combs placed as our questioner suggests, the centrifugal force would cause the honey to press against the sides of the cells, rather than out at the open ends, and hence little or no headway could be made toward accomplishing the desired results. I should be pleased to hear from others in this matter. As the cells in honey-comb generally incline slightly upward, it would appear that better results could be secured, if any, by turning the top-bar toward the can and the bottom-bar toward the central shaft; but I do not think there is anything practical in the idea, anyway.

VENTILATING HIVES—CELLAR WINTERING.

5. "How should hives be ventilated while in the cellar? That is, at the top and entrance. Can they be stacked up as described in the Root catalog and not have the bees pile out all over the cellar and the one stacking them up?"

I use the Dr. Miller bottom-board and like it very much. This bottom-board has a bee-space on one side—the side



HIVE BOTTOM-BOARD USED BY DR. MILLER.

used during the working season—and a two-inch space on the other, which answers for a stand during the summer, and a place for the bees to cluster in during winter, when the board is "winter side" up; that is, where the cluster is large enough to hang below the combs, the cluster hangs down in this space. This space also allows all dead bees to fall below the combs, and gives all the ventilation necessary without further provision, during the time they are in the cellar. It also keeps the bees from falling off the combs, or getting out over yourself and the cellar-bottom, while putting in and taking out, as a small board closes the hive up tight while carrying in and out of the cellar. But, if the hives are reasonably handled, and the proper amount of care used, not to arouse the bees, as is best under all circumstances, very few bees will leave the hive in putting in and piling up in the cellar.

While at the Auburn, N. Y., bee institute, a Mr. Mills gave us something new, which was that he made rims of ⅞-inch lumber of the size of the hive, and 1½ inches deep, on one side of which he tacked the common wire-cloth, such as is used in caging and shipping queens and bees. On warm days, just before time to put the bees into the cellar, he tacked one of these rims at both top and bottom of each hive, the wire-cloth side being out from the hive, and a small entrance, being readily closable, provided in the bottom rim, for the use of the bees, should they have more days of flight before putting in. When putting in, this entrance was closed, and a piece of carpet was placed on top of the wire-cloth at the top, when the hives were piled up, rims all on, and no chance for a single bee to escape during all the winter, the same way Mr. Root pictures in his catalog.

Being told that this was contrary to all old practices, and asked if he had no trouble with the bees trying to get out, he said he was quite positive that he had less loss, and stronger colonies in the spring, in this way than in any other; while he avoided *all* loss of bees from flying out, and the disagreeableness of dead bees on the cellar-bottom. If my life is spared, I shall try this plan in a limited way next winter, as the dead bees on the cellar-bottom are always a nuisance.

PASSAGE-WAYS THROUGH COMBS.

6. "Which do you prefer, all things considered, holes through the combs, or a bee-space over the frames for wintering?"

I thoroughly tried the holes through the combs a score of years ago, and proved them of little if any advantage, while they were a very great nuisance to make, and after being made; were a still greater nuisance in having the bees fill them up the next year with cells of the drone size, so that each hive having such combs sent forth hundreds of drones above what I desired, so I gave the thing up as something not worthy of practice. My hives are so constructed that there is always a bee-space over the frames, and with the Mills plan, this space is one and one-half inches for the bees to pile up in, if they so desire.

CHOOSING A LOCATION FOR BEE-KEEPING.

7. "If you were single, at liberty to go where you wished, and intended to make bee-keeping your life work, what State would you choose, all things considered?"

According to the question, I would hunt out some good, unoccupied place in New York or Vermont, were *honey-production* to be my life work. Undoubtedly there are other States which would give a more agreeable climate, and *might* give a larger yield of honey, but the honey-resources of these States are immense, in favored localities, while their nearness to the great markets of Boston, Philadelphia and New York, which (with Chicago), govern the markets of the United States, makes a market facility unequaled by any other State giving an average good yield.

THE LONG-IDEAL HIVE FOR EXTRACTED HONEY.

8. "Is not the long-ideal hive the best hive for the production of extracted honey?"

It might be, were it best to extract every three or four days during the honey-flow, but as such a course is of questionable wisdom, the hive that allows of tiering-up while the honey is ripening, has the advantage, as I now see it. If there are others who think differently, I should be pleased to hear from them. Onondaga Co., N. Y.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mentioni

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

PHOTOGRAPHING A BEE.

Honorary mention to Collins, of Denver, assisted by D. W. Working, for their photo of the bee, on the front of No. 50. We should have called it the photo of a live bee if they had not "given themselves away." Anyhow, the assistant knew enough of bees to put things in life position. What are those little spurs half way up the ligula? I think they are visible when we closely examine live bees, and they are very distinct in this picture; yet I don't remember to have ever seen a word about them in the scientific accounts. That the tip of the ligula has a semi-identity of its own, other than being a mere prolongation, is very natural—and praiseworthy.

Room for lots more of this magnified photo work before we reach Had-enough-town. Various parts of the bee (alive if possible) would be very welcome. Several years ago, if I remember aright, Ernest Root got a lucky snap-shot of a bee on the wing, which has done good service as a basis of pictures since.

A LONG-TONGUED NUMBER.

No. 50 seems to be a long-tongued number. All right, say we. No danger of getting too many facts on the subject. Say what you will about the uncertainties, we cannot afford to ignore any bright light which appears in front—only don't expect too much, or get too excited. When Mr. Rankin says that in five years' work for the Michigan Experiment Station he has found the best gatherers to be the long-tongued bees, as a rule—well, the testimony may not be final, but it is not to be pooh-poohed. If the tongue keeps on growing for some time after the bee starts out in life, that's an awkward fact which we must look a little out for, and be sure that we have mature bees.

"Nature has been breeding this tongue to a standard length for so long a time that it is not likely to vary rapidly under artificial selection."

If you're drunk on the new fad, drink a little of that and sober up. Thanks, Prof. Gillette. The professor is excusable for wondering how one or two hundredths of an inch can help very much on red clover. 'Snects the *real distance that nectar can actually be taken* out of a tube varies much more than that. Interesting to see that the Cyprians lead. Just what might be expected, considering the vim of the race, and the severe conditions under which nature has bred them. It was not the lack of ability to get honey out of a posy that banished the Cyprians, but a job lot of unendurable qualities. But oh! for a honey-bee with a bumble-bee's snout on it! However, probably the shrinkage of the bumble-bee's dissected tongue is much less than in the case of the smaller species—to the extent that the honey-bee in actual work will compare better than do the figures on page 793.

HONEY FROM RED CLOVER.

Prof. Gillette wonders if those who have reported honey from red clover may not have been mistaken. By no means. Theoretically there are at least four different ways bees can gather it. When honey conditions are most favorable the whole inside of the tube, below the funny little knob which closes the top, appears to be moist with nectar (whether by secretion on the spot or by percolation from below does not matter:) and presumably all that's needed to get nectar is sufficient time and patience in licking at the damp surface. Furthermore, carpenter bees are quite plenty in some places, and they in gathering from red clover punch holes in from the outside. Presumably honey-bees could get quite a bit by following their path next day. Thirdly, we often see clover-tubes with a long section of the bottom filled with nectar. It is *supposed* that they sometimes fill up within reach of the honey-bee's ligula. Fourth, a fall drouth shortens the tubes of second crop clover materially; and they are supposed sometimes to be so short that the honey-bee can reach the bottom.

WATCH THE TONGUE-REACH.

I think brethren who feel at all *satisfied* with the dissection measurements would do well to spend a few hours closely watching bees at work on the stalks of sweet corn (as they do not infrequently), and see if their notions about the bee's ligula are not modified somewhat. In this work bees thrust the ligula between the sh..th of the leaf and the stem—and it being a tight squeak they often fail to get under, and so by accident extend it along the outside in plain sight. My memory of this observation is that I was surprised at the length of their reach. Perhaps the professors will be.

Convention Proceedings.

Report of the Ontario Bee-Keepers' Convention, Held at Woodstock, Dec. 3, 4 and 5, 1901.

REPORTED BY R. F. HOLTERMANN.

(Continued from page 55.)

SIZE OF HIVES—CELLAR TEMPERATURE.

Ques. 1—Is a larger hive than an 8-frame desirable?

Mr. Hall said for extracted honey, the large one. He has one equal to an 11-frame Langstroth. For extracted, he wants the latter, for comb he does not care which.

Ques. 2—How close should an apiary be located to a dwelling so as to cause no annoyance?

Mr. Hall—I prefer them close, but you must manage rightly. The queens in cross colonies should be killed.

Mr. Sibbald—Much depends on how the bees are handled.

Pres. Newton related an instance where the bees were clearly made cross through bad handling.

Ques. 3—What temperature is nearest correct for proper cellar-wintering?

Mr. Hall—44 degrees, I like. I have wintered bees well at 52 degrees.

Mr. Pettit—Why then want 44 degrees? Do you not think there were conditions you did not consider?

Mr. Hall—No doubt.

Mr. Smith—44 to 50 degrees. I think it does them good to get a warming up occasionally.

Mr. Pettit—Seems much depends on the cellar. I believe and acute ear is the best guide.

BEES HANGING OUT—QUEENLESS COLONIES.

Ques. 4—If bees hang out of the hive, is it an indication of no honey-flow, or is something wrong with the bees?

If others are bringing in honey, and bees in certain hives are loafing, they are probably preparing to swarm. If a few bees are on the bottom-board, the colony is probably queenless.

Ques. 5—What is to be done with queenless colonies early in the spring?

If they have lots of honey, set them on top of another hive. It is not advisable to give them a queen.

RETAILING EXTRACTED HONEY—CARNIOLANS AND ITALIANS.

Ques. 6—What is the best way to put up extracted honey for retail trade?

One pound, 1½ and 3 pound jars, to dealers.

Mr. Evans—I want, for my customers, nothing less than 10 pounds.

Mr. Smith—It depends largely on the class of trade. We put it up in 10-cent tumblers to 5-pound pails.

Mr. Sibbald—In Toronto there are six half-pound jars sold to one one-pound jar.

Mr. Holtermann said it largely depended upon what the retailer educated the people to use.

Mr. Darling—It is not well to sell too large a package.

Mr. Craig—We must regulate ourselves by our local conditions.

Ques. 7—Does crossing Carniolans with Italians produce cross bees?

It does and it does not. Weed out the cross.

COMB FOUNDATION—BEST RACE OF BEES.

Ques. 8—Give us the most profitable method of getting foundation made into comb.

Give to the bees when gathering honey pretty fast.

Mr. McEvoy—Alternate sheets of foundation and combs. It is not profitable to hive bees on full sheets of comb foundation.

Mr. Hall—For extracted honey hive on full sheets. every t me.

Ques. 9—Which is the best race?

All of them.

Mr. Smith—Judging from advertisements, the long-tongued.

Mr. Dickinson—Are we to understand that the long-tongued bees are a humbug?

The general opinion was that the long-tongued question had been stretched rather too far.

WEDNESDAY—Morning Session—dec. 4.

The session opened by the president calling upon Prof. Shutt, chemist of the Dominion Experimental Farm at Ottawa. to give the result of the tests conducted by them in connection with

The Specific Gravity of Honey.

Prof. Shutt said that some years ago some experiments were conducted by the Experimental Farm with comb foundation. In the discussion the question came up of the amount of water found in various samples of honey. There was no Canadian data, and in other books he fond a variation of 10 to 15 percent of water. As a result of this Mr. Shutt desired to do some work in this direction, and the same was undertaken with the following results:

With the object of finding the percentage of water Mr. Shutt made a request for samples with which to work, yet no samples had been forwarded by the Ontario Bee-Keepers' Association, and the samples experimented on were from Mr. Fixter, of the Ottawa Experimental Apiary.

Mr. Shutt said that, greatly to his disappointment, he could not tell the members in convention assembled the percentage of water in normal honey. Honey is not a material collected by the bees, but the honey is nectar altered by the bees through chemical additions, a change similar to that which takes place in a portion of our digestive system. There is in honey two sugars closely related, the one sucrose, cane-sugar (dextrose), and another, levulose. This difference was detected by polarization. Results from chemical analysis had shown a great difference in the percentage of water in honey, but Mr. Shutt believed that this great difference was real to only a certain extent, and the great variability only seemed to be so. The work has been done by eminent men, and men of reputation. Why, then, the difference? In honey the portion which crystalizes is the dextrose, the levulose never crystalizing; the latter is also very sweet. Levulose is very liable to decompose, and this decomposition, taking place in drawing off the water, unless condensed, gives the appearance of an increased amount of water in the honey.

The samples taken were, uncapped honey, half-capped honey, and full capped honey.

Four lots were taken of each of the above, two lots covered with a glass stopper, and two with a cheese-cloth. One of each set was put in the honey-house and in the cellar, to test to what extent, it any, exposure to the atmosphere in the honey-house and the cellar influenced the percentage of water and flavor of the honey.

In applying heat to honey, even when the temperature is below boiling water, it decomposed the levulose as well as drove off the water. Therefore, the percentage of water calculated by such a method is unreliable.

Heating honey rapidly, there was less loss than if heated slowly.

Prof. Shutt then referred to the Bulletin of the Inland Revenue Department, showing that one man's work gave almost equal percentage of water, yet varies greatly from another chemist's. The uniform result was probably owing to the fact that each chemist put the samples under his hand through a similar process. In one case was found 10 percent, another 16 percent, another 27 percent, of water. He claimed the difference lay in the treatment of the samples, and Mr. Shutt felt inclined to believe the percentage of water was nearer 15 than 30.

After 48 hours' drying Mr. Shutt's results were 15 percent; after another day, 1 or 2 percent more; after another day, more or less, and so on indefinitely. This method was therefore of no use at 70 degrees. Centigrade, or 158 degrees, Farhenheit; even the honey decomposed.

Another method was by taking the specific gravity, the percentage of dry matter being deducted from the honey. In this way, instead of 21 percent of water, he secured 17 and 16 percent, which seemed to indicate that even at 126 degrees, Fahrenheit, there was some decomposition.

By the application of heat at 126 degrees the percentage of water in various samples was: 23 by specific gravity, 19 percent; 20 by specific gravity, 15 percent; 22 by specific gravity, 17 percent; 26 by specific gravity, 21 percent; 21 by specific gravity, 15 percent. In the latter case there was 5 percent less water. He was not prepared to say which was more correct. Mr. Shutt, however, favored the specific gravity. But next year he expects to make further tests and at lower temperatures.

To comfirm the theory that the levulose decomposed, Mr. Shutt mixed equal parts of dextrose and levulose and took the specific gravity; also applied heat.

At the temperature of boiling water, after 48 hours 10 percent of the levulose had decomposed. After 120 hours, 18 to 19 percent was lost. Next, a temperature three-quarters the heat of boiling was applied; after 24 hours 5 percent of loss was recorded.

Prof. Shutt intends to continue this work and find a definite way of determining the amount of water in honey,

As to general results, Mr. Shutt found that there was a general tendency of about 2 percent more water in the uncapped than in capped honey.

There is very little adulterated honey in Canada, the article used to adulterate being generally glucose. As to the difference between the honey from the honey-house and cellar, he wished a committee to decide. He believed the better way was to keep honey upstairs, not in the cellar.

In reply to a question Prof. Shutt said that Mr. Selwyn told him that, as to specific gravity, seasons of dryness of the atmosphere made a great difference.

A short address was then given on honey as a food.

Honey must be classed with saccharine food only. Foods contain the following: Protein or albumenoids; fat; starch and sugar; ash or mineral matter.

1st. Protein contains nitrogen, as the white of an egg, curds of milk, the gluten of wheat.

2d. Fat—this everyone knows.

3d. Starch and sugar—carbohydrates.

4th. Ash and mineral matter, which forms bone.

We require nitrogen to build up the broken-down and worn-out tissue; the others do not contain this element.

We obtain heat and energy from fats and sugars.

Where does honey come in? It produces heat and energy. It is not the food we eat but what we digest that is valuable. Honey is a food in a partially digested form, and in honey we are saved the expense of partially converting the food. Honey is used as a medicine.

For ages before Christ, honey was the only sugar known. Sugar from the sugar-cane was known to China and India 800 years B. C., but it had no commercial position for 1000 years after that.

Prof. Shutt did not think that honey was appreciated as it should be; it should be used more generally. More judicious advertising would be beneficial.

In liquifying honey it should be kept at 70 degrees, Centigrade, and not above. The essential oil is volatile; one should liquify at a low temperature.

Mr. Fixter, in explaining the selection of the samples, said:

The object I had in view in selecting the samples was to see if we could improve the quality. I therefore took three samples from July 1 to Aug. 5.

Did you extract some in September to get the specific gravity?

Mr. Fixter—No.

Mr. McEvoy—We believe when cool weather comes, the honey, though capped, is thinner.

Pres. Newton—Although Prof. Shutt has not obtained the results he desired, we have profited much by the address. I will appoint Messrs. Hall, Pickett and Emigh to report on the samples.

Report of Inspector of Apiaries.

During 1901 I visited bee-yards in the counties of Bruce, Grey, Perth, Oxford, Waterloo, Wellington, Wentworth, Halton, Peel, York, Ontario, and Simcoe.

I inspected 77 apiaries and found foul brood in 29 of them, and dead brood of other kinds in many others.

Some bee-keepers secured the comb from others who had lost many colonies of bees, and, not knowing that these combs were diseased, brought them home and put them into use, and thus spread the disease in their own apiaries.

When foul-brood matter dries down it glues itself fast to the lower side and bottom of the cells, and there it will remain just as long as the comb lasts, and in old, dark combs the stain-mark left in the cells from the disease is not yet noticed by those who never had any experience with foul brood.

It is when the disease becomes widely spread that the bee-keepers wake up to the fact that their colonies have foul brood. These mistakes, which have so often ended in big losses from bringing diseased combs into apiaries, should be a warning to bee-keepers not to deal much in old combs.

No bee-keeper would bring a diseased comb into his apiary if he knew that it contained foul brood, and the men who dispose of such combs don't know that they are diseased when they sell them.

I received many letters from bee-keepers asking me to visit their localities, and while inspecting there to stop with them. I was much pleased with the generous treatment which I received from every person, and in turn I felt in duty bound to help the people all I could in every possible way besides getting their apiaries cured of foul-brood, and I did so.

I am also pleased to say that nearly all of the largest and best-paying apiaries in the Province of Ontario are among the very many that I got perfectly cured of the disease years ago.

WM. MCEVOY.

Woodburn, Ont., Canada, Dec. 3, 1901.

Mr. Clarke thought it would be well to have a certificate of what had been done, and that the inspector had visited the apiaries, and the condition in which he left each apiary.

Mr. Emigh said that the Government hired Mr. McEvoy, and he reported to them.

Mr. Holtermann said that Mr. McEvoy had to give an account to the Government; it is not a question of his honesty, but in a business-like way he should give account, and this he did.

Mr. Evans said that the Ontario Government looked pretty closely after the finances, and when they passed a statement we might be sure all was right.

Mr. Gray asked to whom to apply for Mr. McEvoy's services?

Answer—The president.

President Newton—I think it would be well to abide more closely to the rule in this report in the future.

The Directors' report was given, and considered satisfactory.

WEDNESDAY—AFTERNOON SESSION.

The president in opening the session said he had great pleasure in calling upon Mr. Murus, Mayor of Woodstock.

The Mayor welcomed the Association and its members; he knew but little about this line of business but thought that more should understand something about bees. He paid the Association a high compliment as to the intelligent appearance of its members. He thought more could engage in the business in general, and especially in the vicinity of Woodstock. He trusted that they would soon be found again convening in the city.

In closing, he welcomed the Association on behalf of the citizens.

Pres. Newton in reply said that the Association was very much pleased to receive the welcome extended, as such a welcome had a tendency to make the members feel at home. On their behalf he thanked the Mayor for his presence and address.

John Fixter, of the Experimental Farm at Ottawa, then gave the following:

Experiments to Test Whether Bees Injure Sound Fruit.

For many years the question as to whether sound fruit was injured by honey bees has been under discussion, but last year special attention was drawn to this question by a lawsuit between a fruit-grower and a bee-keeper, the former claiming that his fruit had been seriously injured by the bees of his neighbor, while the bee-keeper brought evidence to show that not only was this not the case, but that it was impossible. The question was of so much interest to bee-keepers that the following experiments were undertaken to determine whether bees, even when deprived of food, would attack fruit placed within their reach. The results here given indicate that such is not the case, which merely confirms the conclusions arrived at many years ago.

On Sept. 7, 1901, when there was no honey to be gathered on plants outside, ripe fruit of four different kinds, viz., peaches, pears, plums and grapes were exposed in different places near the Experimental Farm Apiary, where it was easily accessible to the bees.

A. Inside the bee-hives.

B. On branches of trees in the apiary enclosure.

C. On shelves in a workshop, to which the bees had access through an open window.

Every care was taken that all the fruit used in this experiment should be perfectly sound.

A. Inside bee-hives: The fruit was exposed in three different conditions, (1) whole fruit without any treatment; (2) whole fruit that has been dipped in honey; (3) fruit which had been punctured in several places with the blade of a pen-knife.

Four colonies were selected for this experiment, all of about equal strength. Each of these colonies was in a hive upon which was placed a super divided in the middle by a partition. From two of the hives all the honey had been removed; in the two remaining hives five frames were left, each having considerable brood honey around it. The former two weighed, on an average, 27 pounds, the latter 34½ pounds. In each one of the four hives the whole specimens of fruit not dipped in honey were hung within three empty frames tied together as a rack. The whole specimens of fruit dipped in honey were placed in one compartment of a super, and the punctured specimens were placed in the other.

The bees began to work at once both upon the dipped and the punctured fruit. The former was cleaned thoroughly of honey during the first night; upon the punctured fruit the bees clustered, thereby sucking the juice through the punctures as long as they could obtain any liquid.

At the end of seven days all the fruit was carefully examined. The sound fruit was still uninjured in any way, but had the surface polished and shining as if the bees had been traveling it, trying to find some opening through the skin. The dipped fruit was in a like condition, quite sound, but every vestige of honey had disappeared. The punctured fruit was badly mutilated and worthless, and beneath each puncture was a cavity, and in some instances decay had set in.

The experiment was continued the following week, the undipped, sound fruit being left in the brood-chamber. The dipped fruit was given a new coating of honey and replaced in the super, and a fresh supply of punctured fruit was substituted for that which had been destroyed.

At the end of the second week, the condition of this fruit was entirely similar to that of the first lot.

For the third week fresh samples of fruit of all the above kinds were used, because some of the sound fruit had begun to decay: this fruit, however, had the skin unbroken, and in no case had the bees done any damage. The result was the same as before.

After the third week the bees belonging to the two hives which had been deprived of the honey appeared to be sluggish, and there were many dead bees about the entrances of the hives. These colonies had lived for the first week on the punctured fruit, and on the honey of the fruit which had been dipped.

As there were at that season few plants in flower from which they could gather nectar, these bees had died of starvation, notwithstanding the proximity of the ripe, juicy fruit. This supply of food, which they were urgently in need of, was separated from them only by the thin skin of the fruit, which, however, this evidence seems to prove they could not puncture, as they did not do so, although they kept crawling over it continually.

The mean weight of each of these two hives Sept. 7, when the experiment was begun, was 27 pounds. At the end of the experiment, four weeks later, each had lost 3½ pounds.

The mean weight of the two hives in each of which were left five frames with brood and honey, was, at the beginning of the experiment, 34½ pounds. The mean loss of each of these hives was 2¼ pounds.

B. Fruit exposed in the open air hung from the branches of a spruce tree in the apiary enclosure: In this experiment two sets of whole fruit were used, one being dipped in honey, the other punctured as before. The bees worked exactly as in the hives and with the same result.

C. Fruit exposed on shelves in a work-shop adjoining the honey-house: This, like the preceding experiment, consisted of dipped fruit and punctured fruit, although the bees did not work so freely inside the building as they did on the fruit hung outside on the trees and that in the hives; still, the results were practically the same in every case.

He had conducted experiments with the different sizes of hives, foundation and putting out bees.

In the matter of experimenting with fruit, Mr. Darling felt sure this experiment, and similar experiments conducted on the other side of the International line, would be of interest to bee-keepers and the public. As to Prof. Shutt's work he was surprised, yet not surprised, that there was the difficulty in detecting the percentage of water. He hoped Mr. Shutt would keep on and make a thorough investigation of the matter. As to practical experience in the apiary, he had no doubt all noticed that the grass becomes discolored at the entrance of the hive, no doubt from the fumes of formic acid from the

hive. He would endorse what Mr. Selwyn had said about the difference in the thickness of honey in certain seasons. The thin honey was not what the customers wish to purchase. Bee-keepers did not adulterate honey with water, but there was unripe honey put upon the market which destroys the market for good, thick, well-ripened honey.

Mr. Darling found that the longer the honey was left with the bees the riper and thicker it became.

Mr. Frith said this was a long-standing question, and of much importance. Many assertions were made, but they wanted evidence such as this. He was surprised that they had to admit that nectar did undergo some change in the hive.

Mr. Holtermann thought we should not let this statement pass; many have for years admitted that it does undergo some change.

Mr. Fixter asked if any one had trouble while picking fruit, or had they found bees working on sound fruit.

Mr. Evans—As a matter of fact, in seasons of scarcity the bees sometimes work on raspberry, but it is near the close of a season when berries are stunted and small; the bees do not sting the pickers unless they pinch them.

Pres. Newton—I think if raspberries are neglected and overripe they are attacked; not when ready for shipping.

Mr. McEvoy—I can endorse the president's statement.

Mr. Byer—I am convinced that bees will injure the raspberry even when not overripe.

Pres. Newton—I do not agree with Mr. Byer.

Mr. Chalmers—I agree with Mr. Byer.

Mr. Holtermann—I agree with Mr. Byer, but it is not often, and the bees help to fertilize the blossom, therefore doing more good than harm.

ELECTION OF OFFICERS—PLACE OF MEETING.

President—J. D. Evans; 1st Vice-President—James Armstrong; 2nd Vice-President—W. A. Chrysler; Secretary—Wm. Conse, Streetsville, Ont.; Teasurer—Martin Enigh. Directors—J. D. Evans, Jas. Armstrong, W. A. Chrysler, W. J. Brown, J. K. Darling, C. W. Post, A. Pickett, J. W. Sparling, M. B. Holmes, John Newton, F. A. Gemmill, Samuel Wood, and Prof. Harrison; Auditors: William Nolan and H. Sibbald; Inspector of Apiaries: William McEvoy; Assistant, F. A. Gemmill; Representative to Toronto Exhibition, A. Pickett; Western, J. F. Miller; Ottawa Exhibition, J. K. Darling; next place of meeting, Barrie, Ont.; Revising Committee, Messrs. Heise and Evans.

(Continued next week.)

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Historical—Dead Bees and Wintering.

1. Where and by whom was the first copy of the American Bee Journal printed? What date is the oldest number?

2. Is one quart of dead bees too much to indicate bad wintering, at the present date (Jan. 7), from 18 colonies?

PENN.

ANSWERS.—There lies before me a volume, whose title page reads as follows:

The American Bee Journal.
Edited by Samuel Wagner.
Volume I—1861.
Published by
A. M. Spangler, Book and General Job Printer,
No. 25 North Sixth St., Philadelphia.

It was a monthly publication, the first number appearing January, 1861. There are 284 pages in the volume, about 24 pages each month. The printed surface on each page was a little more than a half that on the page of the present number—to be exact, four-sevenths. Comparing the volume for 1861 with that for 1901 (40 years later) the printed surface of the latter is a shade more than five times as much as the former. If the subscription price had been continued at the same rate in proportion to the printed surface, it would now be $5.00 a year instead of $1.00. Samuel Wagner, living at York, Pa., the editor of the first volume, was a fine German scholar, and the first volume was and is especially valuable because of what is drawn from German success, and because of its containing the Dzierzon theory, with which every bee-keeper should be familiar if he would be up in his calling. No single volume of any bee-paper has been so valuable to me as Volume I. of the American Bee Journal, and to this day I refer to it frequently.

2. No; I should say that is not at all a large quantity of dead bees up to Jan. 7.

Transfering and Swarming.

I have a colony of bees in a box-hive and I am going to transfer into a Danzenbaker hive in the spring. Will a swarm issue from them? and will it store any surplus honey during the season? RHODE ISLAND.

ANSWER.—If you make no blunder in transferring, the colony ought to do about the same at swarming and storing honey as if it had not been transferred. Some, however, prefer to leave the colony undisturbed until it swarms, hiving the swarm in the new hive, then transferring about three weeks after swarming.

Danzenbaker vs. Langstroth Hive.

If the Danzenbaker hive is preferable to the Langstroth hive for the production of comb honey, are the closed-end frames an advantage? Wouldn't the bees stick propolis all over them so they could not be manipulated? OHIO.

ANSWER.—I think closed-end frames ought to be better for wintering outdoors than open-end frames. But I found them so difficult to handle that I gave them up. Where propolis is not so plenty they would not be so bad, but if I had to use Danzenbaker hives I should prefer to live where there was no bee-glue.

Moving Bees a Long Distance.

I want to move 90 colonies of bees as far west as Omaha, Neb., by railroad. I will describe their condition and a plan that I have in mind for preparing them for the journey, and if, in your judgment, it is not complete, add what you think would make it so.

I expect to ship April 15 or 20. The bees are all in 8 and 10 frame St. Joe hives, on metal spacers, so the frames can not get misplaced sidewise. My plan is to put an extra strip on the bottom-board, making the space below the frames about ¾ inch, and close the entrance tight, and give them the same space above, with a strip across the top-bars at each end so they cannot shake, covering each with screen-wire, then with the lid or hive-cover off tier them up in the car. The frames are to run with the car, placing two strips of inch lumber between each tier, then fasten them securely so they cannot move. The distance is 382 miles. If they were not shut up over 48 hours would they get through without water?

ILLINOIS.

ANSWER.—It seems to me your plan hardly leaves anything to desire, so I have no suggestion to make. In April it hardly seems they ought to suffer for water if confined not more than 48 hours: still, it will not be a difficult thing to give each colony a small sponge or a rag filled with water.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

GENERAL ITEMS

Beginner's Experience with Bees.

The more I read the American Bee Journal the more I want to, hoping in this way to learn more about the little bees of which I know very little, although I have been keeping and handling them for five years.

When I captured my first swarm off some weeds at the end of a cornrow that I was cultivating, I thought I had performed a great feat. I also thought within a few years I would be a full-fledged bee-man. But I have found there are many things to learn about bee-keeping.

I kept this swarm in a salt-barrel (with a cross and support) the first season and winter. The following spring (having lots of hogs and only one barrel of bees) I traded a hog for a colony of bees in a deep box-hive, and an extra hive; then I transferred the old colony from the barrel to the box-hive. I did not like the hive, although the man I got them of said they were about as good as any made.

At this time I procured "A B C of Bee-Culture," and learned of the Langstroth hive, and at once sent for three of them, and I am using nothing else now.

I got along very nicely for a couple of years; then I had 13 colonies. I had been wintering them on the summer stands, but the winter of 1889-90 I lost eight of the 13 before the winter was half over. So I put the remaining five colonies in the cellar under the dining-room, as we had just completed a new house, and I had built a cellar large and roomy; I concluded it was a better place for the bees of Nebraska. Our cellar is 10 feet deep, 15 by 22, brick walls, cement floor, ceiling lathed and plastered, and entrance from the east porch. I take the window out and slat the hole and pack with straw. The mercury stands at 42 degrees until near spring or warm weather. I have never lost a colony in the cellar from any cause. So it is natural for me to advocate the cellar-wintering for bees.

The season of 1900 was so dry and hot here, or something, that my bees stored very little honey, and cast only one swarm from the five colonies.

The past season was a good one here. One colony of hybrids that did not swarm stored 96 pounds of comb honey, and another 80 pounds, which I thought was good.

I had one colony whose queen got crippled, losing a wing, and she must have been a superseded queen, because she laid nothing but drone-eggs, or all the brood was drone-brood from her eggs. Well, I tried for about three weeks to get them to start queen-cells by giving fresh frames of eggs and brood from other hives, but they would not. So some time in September I sent for a queen to put with them. Well, sir, Mr. York, those bees had become so indolent, or lazy, or something (I will let you name it), that they would not try to release the queen from the cage. So after about 50 hours of waiting I let her out of the cage, to go in among them, and everything seemed all right from that on. In a few days she began laying, and October being a fine month, by feeding I kept her laying all through the month, and I think they are all right for winter.

I fed granulated sugar syrup. And right here I would like to ask, Is there any danger of this granulating in the cells so hard that the bees cannot get it out?

W. H. Root.

Cedar Co., Nebr., Dec. 24.

[Yes, there is danger if you used no acid. If you feed as early as August or early in September, and use equal parts of sugar and water, the bees will so prepare the food that it will be all right without any acid. But if you feed as late as October and use as much water as sugar, there is danger that the bees will not succeed in evaporating the feed sufficiently; and possibly if they should get it thick enough they would not produce the chemical changes that prevent granulation. So if you must use syrup in October, take 2 pounds of water to 5 of sugar, and about the time the sugar is dissolved stir into it an even teaspoonful of tartaric acid for every 20 pounds of sugar, first dissolving the acid in a little water.—Editor.]

Wintering Bees—Arnica for Bee-Stings.

I have been a constant reader of the "Old Reliable" for the last three years—have read every issue very carefully—and noticed the many questions and their answers, and the opinion of different bee-men on the honey-bee question. I am well pleased to hear bee-men give their plans and opinions and new ideas for publication in the American Bee Journal, for it is in this way we all learn something new.

I winter my bees on the summer stands. I have what I call a winter-case, made five inches larger all around than the hive, and six inches higher, so as to admit a super on top of the hive. In September I place this winter-case over each hive and pack them well with chaff, putting a Hill's device over the frames, then a winter super—that is, a super without any slats across the bottom—then a piece of burlap followed by a thick, heavy cushion which fills the super, making four inches right over the cluster. Then I put on a cover on top of the super, then the cover on the winter-case, making all tight and warm. I have used this way of wintering for a number of years and have never lost a colony of bees, and we have some pretty cold weather here in Michigan.

My apiary consists of 13 colonies, as I live in the city and have not very much room. I keep the increase down and work for comb honey. As soon as my bees fly well in the spring I commence to feed; not because they are starving, but to stimulate them and start the queen to laying. Then when the honey-flow comes, which is white clover here, my bees are ready for work, for the hives are full of bees. If they choose to swarm I let them come out and cluster, then I set a new

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W Chester, Pa

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2A4t Please mention the Bee Journal.

hive on the old stand with six frames of full sheets of foundation, and a division-board on the outside, as the hives are all 8-frame. I then hive the swarm and cover them up until the next morning, when I take the frames out of the old hive and shake off almost all of the bees in front of the new hive, and if there is any unsealed brood I place that in another hive, leaving nothing but sealed brood in the old hive. Then I place a super on the new hive, and on the super I put a piece of window screen that just fits the sides of the hive. I then place the old hive on top of the super, making all tight so as to keep all the heat which rises from the lower hives. This keeps the brood warm, and soon all will be hatched out: then I shake them off the frames in front of the lower hive. When all are hatched out I take the hive off and keep the cover for other swarms. As soon as the flow stops I take out the two division-boards and put in two frames of worn-out combs. This gives the bees a chance to fill up for winter.

How often we hear the question asked, What is good for the bee-sting? But of all the answers that have been given in the bee-papers I failed to see the remedy that I have been using, and with success. I will give it here so if any one needs it next season he will have an opportunity to try it: Arnica. Simple, isn't it? Well, try it and be convinced. Simply remove the sting and apply the arnica: the pain stops, and the swelling stops. In 15 minutes you will not know that you had been stung. I have used it for several years.

L. D. CARRIER.

St. Joseph Co., Mich., Jan. 4.

Foul Brood—Queens—Candied Honey.

In renewing my subscription to the American Bee Journal I must say that I do not see how a bee-keeper can do without it, although at this time I can hardly class myself as a "bee-keeper." I did not keep mine. That dread disease, foul brood, or its nearest relative, whatever it is, has cleaned me out, and I gave up the fight. Sixty-five colonies last fall, and two colonies this fall, is my record. In five years I have lost over 250 colonies, and I now have come to the conclusion that it is of no use to attempt to keep bees in this locality, as a business, for several years to come, or not until the wild bees in the woods are also dead.

Colonies treated by the McEvoy plan last year (1900), developed the disease this year (1901), the larvæ dying before being capped over in most cases, but two colonies capped their brood before it died. They gave off the "glue-pot" odor, and the others did not.

Now I am looking for another location, and shall "try again," as I have retired from railroad work and aim to amuse myself with the pets I have loved so many years.

In regard to buying queens, I have bought half a bushel, or at least have a half bushel of old queen-cages, but very few I ever bought lasted one year. Of the bright yellow, 80 per cent died the first winter. I have bought queens from Texas to Michigan, and none gave the satisfaction that I got from queens

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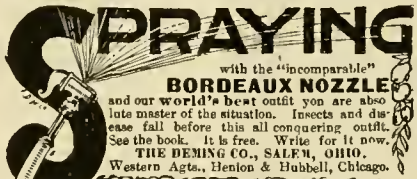

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of my own rearing. Still, I will buy again when I need them.

Now in regard to candied honey: For 20 years I have produced both comb and extracted. I have never seen candied honey, and have never had any of my extracted show even signs of candying, and have kept it for three years in glass and earthen vessels. When I am short of extracted and buy to fill out, I find the honey candied nearly to the top of the can. I wish some of the wise ones would tell the reason for this.

This American bottom (St. Clair Co., Ill.), is a good location for honey-production if free from disease, but without a State inspector I fear to risk it any more. Some bee-keepers do not know the disease (foul brood), and let weak or dead colonies be robbed out. Others who do not know allow the same thing, and deny having the disease. They go on spreading it by selling to anyone who will purchase. So the need of a State inspector becomes more apparent every day.

What has become of my old comrade, Hon. Ed. Whitcomb? I do not see him mentioned in the American Bee Journal any more. Wake him up please.

If I secure a suitable location you will probably hear from me again.

C. A. HAINES.

St. Clair Co., Ill., Dec. 20.

[Mr. Whitcomb will please consider himself called, and "wake up."—ED.]

Long Tongues and Red Clover.

In the report of Prof. Gillette, as published in this journal recently, he expresses some doubt as to bees getting nectar from red clover, because the greatest tongue-reach does not exceed .23 inch, while red-clover tubes vary from .34 to .37 inch. To this Editor Root replies in Gleanings in Bee-Culture:

In regard to this last, I feel that Prof. Gillette has gathered a wrong impression, and certainly wrong in supposing that pollen may be the only thing sought by the bees. The red-clover corolla-tubes grown throughout the East, as I have measured them, in hundredths of an inch, vary all the way from .12 to .36 or .37 in length, the depth increasing from the outside to the center. In the rain-belt, at least, I am sure I am right for these measurements. What they may be in Colorado I am not able to say. As nearly as I can estimate, half of the tubes in an ordinary head of red clover come within the range of .20 and .22; so that the bees that have a tongue *reach*, no matter what their tongue *length* may be, will be able to gather from half of the tubes; and probably half of all the nectar in the head, as they get some out of the long tubes. That there is honey in these tubes is well known, a fact which can be easily demonstrated. All one has to do is to pull the tubes at the right season of the year, squeeze one between the thumb and finger, and a good-sized drop of nectar will issue from the end.

Nay, I have gone further. I have watched bees working on red clover, and I have repeatedly seen them extract all the nectar out of the shallow tubes, and draw it down in the long tubes to a point just equal to their reach. While the bees do, of course, gather some pollen from red clover, yet I think the fact is demonstrated beyond doubt that tons and tons of such honey is gathered, because there are times when nothing else is in bloom, and the bees will store in sections quantities of honey that tastes very much like the bumble-bee honey of our boyhood days.

On all other points I believe the Professor's conclusions are mainly correct, except that some bees have greater reaching powers, probably, than actual measurements will show. His tables show a variation in tongue reach in Italians from .15 to .22. It will be noticed that he says he had measured the tongues from red-clover bees, and also the tongues of those that were said *not* to work on that plant, and that he was "unable to find any difference in *tongue length* in favor of the clover workers." (The italics in this case are mine.) It would be interesting in this connection to know whether those same bees showed a difference in tongue reach; for, as the professor has very properly shown, there is a difference in tongue reach and tongue length, and the variation of the former is much greater than the latter.

It has been shown—indeed, I believe it is generally admitted—that some bees will gather much more honey from red clover than others. Whether there is a physical difference between them has not been proven so far; and, to speak frankly, it looks now as if tongue *length* certainly has nothing to do with it. Whether tongue *reach* has or not, will have to be determined by means of much more perfect glossometers than have yet been devised. I say *glossometers*, because I am convinced that the rule plan of measuring (which I have hitherto advocated) is not altogether reliable. It gives an *idea*, but does not show what the bees *will* or *can* actually reach when alive.

"Bee-Fever."

DEAR FRIENDS:—I have been obliged to delay writing to you, as I have been "laid up for repairs." A tale hangs to this which I can best tell you by copying an extract from a letter that the partner of my joys and sorrows wrote to her sister. It may have interest for you, as you will see that you are clearly "accessory before the fact," and must bear your share of the penalty:

"Oh, good gracious! I must tell you of the new ailment that is afflicting Harry. You know what an enthusiast the dear fellow is in everything he touches, and how his geese are always swans. This time it is the bee-fever, to which typhoid is simple, and even yellow jack is less virulent. You cannot dream of such absolute absorption. Nothing is of interest unless it concerns bees. Just think, my sitting-room table is covered with bee books and magazines, which I must not move, as he runs in four hundred times a day to consult them and see (I reckon) if his

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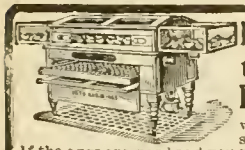

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bees are working according to rule. Every little, miserable weed in the country near and far he has entered in a book—when it blooms, how long, and how good for bees, and his talk is bee, bee, bee, until I can hear the buzzing. I do believe he has a personal acquaintance with each one. I know he has with the queens, for they each have a name painted on their box: 'Yellow Rose of Texas,' 'Southland Queen,' 'The Lone Star,' etc., and if he does not talk to them I am confident they talk to him, for he can tell by their sounds just what they are doing.

"Some one from Texas sent him some queens, and his anxiety and expectation before they came, and while looking for them, was somewhat akin to what we experienced before the advent of another little stranger whom you know. But when they did come you never saw the like. 'Oh, mother, come look—oh, the beautiful things!—oh, how grand!' I had never seen a queen, and naturally I expected to see something gorgeous. I looked into the little box he was holding up to me and innocently asked (never dreaming of provoking him): 'Is that little brown thing the queen?' You ought to have seen the look of disgust and indignation I received. 'Little brown things! Why, woman, where are your eyes? She is two inches long and yellow as gold,' with which, after glaring at me, he marched out in the high sulks.

"Well, pretty soon he came back all smiles and good humor to tell me he had now introduced them. This seemed an unnecessary formality to go through with insects, I thought, but I did not dare to say anything. All he could do then, was to wait a week and see if they had 'took,' or something (may be it is like vaccination).

"At the end of the week here he comes for my embroidery scissors to cut off their legs or wings or something, and pretty soon I heard a terrible commotion at the barn, and a man came running to tell me he had dislocated his shoulder by a fall. I ran as fast as I could, and met the procession coming to the house, and two men assisting him (I leave out what he was saying). I ran to him with, 'Oh, Harry, are you hurt? Are you injured, dear? Any bones broken?' I could see he was in much pain, but bless you, he gave me one of those high and mighty looks of his, and his lip curled up in scorn as he fairly yelled: 'Hurt! Bones broken! Injured! Why, woman, I tell you my queen is gone! What do you mean by talking of bones when I have lost my queen? Just like a woman!'

APIARY OF R. RODENBERGER, OF MILWAUKEE CO., WIS.
(See page 68.)

"We got him to bed to find his shoulder was dislocated, and it has taken many weeks to get well. It seems his blessed queen got away and lit away up inside the barn, when he went climbing and clambering up after her, when something broke and gave him a terrible fall. It had no effect on the fever, for it is certainly as bad as ever, a case of 'ruling passion, strong in death.' For my part I feel and hear nothing but 'buz, buz, buz,' all day long. Do not be surprised if you hear of my 'swarming' any time."

Some people may think it was not in good taste for me to thus read my good wife's letter and then send it to others, but you see there is a moral in it. I wish to impress upon others the truth of the old adage that "listeners never hear any good of themselves;" besides, I need sympathy.—HONEY-BUG, in the Southland Queen.

Feeding Back.

J. E. Hand, who says he produced in the past season 2000 pounds of extra-fancy comb honey by feeding back, discusses the matter with a friend in Gleanings in Bee-Culture. Part of the conversation is as follows:

"What do you think of Mr. Doolittle's experience in feeding back?"

"I am not at all surprised at the results of his experiments. I have had about the same experience, and so will any one else who tries to feed back with a frame as deep as the one he uses. However, I consider his frame about

as well adapted to feeding back as it is to producing comb honey when gathered from the fields."

"Then you consider that a hive that is well suited to the production of comb honey is just as well suited to feeding back?"

"Yes, that is my experience exactly. Mr. Doolittle fed his bees 50 pounds of honey, and they only just got to building comb nicely, and then they struck and refused to do anything, after which he gave up the whole business in disgust, as almost every one else does who tries it."

"What do you think became of that 50 pounds of honey?"

"Well, I will tell you what I think became of it. You will notice he says he fed them about 15 pounds each, which they carried off during the day. At that rate it would take only a little over three days to carry off the 50 pounds. They were not building any comb; and as it takes three or four days of feeding to start comb-building there could be no place to store the feed except in the brood-chamber; and as his frame is 11¼ inches deep, there was plenty of room for it, or the queen might have been a poor one, and the bees simply crowded her out and filled up the brood-chamber. I have often found this the cause of a failure in feeding back. A good queen will compel the bees to move the honey out and give her room, while a poor one will be crowded out completely, and the brood-chamber crammed full of honey, after which the bees will work about as Mr. Doolittle says his did."

"Do your bees ever refuse to work in the feeders?"

"Well, not so bad as that; but there is a great difference in the working qualities of bees. Some will build comb faster, and cap their honey whiter. I keep a pedigree of these bees, and use them for feeding back. They are also likely to do better field-work. I had three colonies this year out of 50 that I could not make do satisfactory work. Two of them were poor comb-builders, and the other capped the honey so badly that it was not fit to sell. Those queens will lose their heads next spring."

"How much do you find it profitable to feed at a time?"

"I give them all they will take up in 12 hours if they are building comb; if not, I feed about a quart per day until comb-building is started nicely. My best colonies would take about 2 quarts every 12 hours."

"How long would they keep this up?"

"They kept it up this year from Aug. 1 to Sept. 25, when the weather became too cool for comb-building."

"What kind of hive do you consider the best suited to feeding back?"

"There is only one kind of hive that I know anything about that is at all suited to feeding back. It must have a very shallow frame, and must be capable of contraction horizontally so that the brood will be spread out evenly under the super. The Heddon is the only one that will do it."

G. B. Lewis Co., Watertown, Wis., are among those who believe in patronizing the advertising columns of the American Bee Journal. Hence we are glad to acknowledge the receipt of their neat catalog for 1902. It contains 48 pages and cover. See their advertisement on another page. In writing them, always mention the American Bee Journal, as it will help both them and us.

CONVENTION NOTICES.

Wisconsin.—The Wisconsin State Bee-Keepers' Association will hold its annual convention in the State Capitol, at Madison, Feb. 5 and 6, 1902. This promises to be a large convention. All are invited to attend. There will be excursion rates of 1⅓ fare for the round-trip, good for all of the first week in February.

N. E. FRANCE, Pres. ADA L. PICKARD, Sec.

New York.—The annual meeting of the New York State Association of Bee Keepers' Societies will be held in the parlors of the Kirkwood Hotel, Geneva, N.Y., Wednesday, Feb. 5, 1902, commencing at 10 a.m. All interested in bee-culture are cordially invited to be present. Subjects of importance are to be brought before this meeting, and it is desired to have a large representation of bee-keepers in attendance.

C. B. HOWARD, Sec., Romulus, N. Y.
W. F. MARKS, Pres.

Utah.—The Utah State Bee-Keepers' Association will hold its annual convention in the City and County Building, Salt Lake City, April 5, 1902, at 10 a.m. This promises to be an interesting convention. All are invited. It is desired to form an exchange for the protection and benefit of our bee-keepers. Come and aid a good cause. It is expected that every county will be represented. J. B. FAGG, Sec.

E. S. LOVESY, Pres.

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fully covered by patent. Gold Medal and highest award at Pan-American, October, 1901. Illustrated 32-page circular free. Complete Catalogue, 196 pages, 8x11 inches, mailed for 10 cents. Ask nearest office for book No. 50.

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Ask for our price-list and testimonials.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 21.—The honey market is of a slow nature with little change in price of any of the grades. Choice grades of white comb honey, 14½@15c; good to No. 1, 13½@14c; light ambers, 12½@13c; dark grades, including buckwheat, 10@12c. Extracted, white, 5½@7c; amber, 5½@5¾c; dark, 5@5¼c; the scale of prices varying according to flavor, body and package. Beeswax steady at 28c. R. A. BURNETT & Co.

CINCINNATI, Jan. 21.—The demand for honey is fair. Extracted honey is offered freely. Dark brings 5c; lighter, 5½@6c; fancy, 6½@7½c. Comb, fancy, 15c; lower grades, 12½@13½c.

C. H. W. WEBER.

ALBANY, N. Y., Jan. 22.—Honey market quiet and firm for all grades of comb honey, of which very light stock is on hand. White, fancy, 15c; No. 1, white, 14c; mixed, 13c; buckwheat, 13c. Extracted, white grades slow sale, and price uncertain. Straight buckwheat extracted scarce at 6c. Beeswax, 28@30c. H. R. WRIGHT.

BOSTON, Jan. 20.—Strictly fancy comb honey in cartons, 15½c; A No. 1, 15c; No. 1, 14½c; very little No. 2 to offer; stock unusually running No. 1 and A No. 1. Extracted, light amber, 7½c; amber, 7c; Florida honey, 6½@7c.

Our market continues somewhat dull in the demand for honey, while stocks are ample for the balance of the season, unless there should be a much larger demand than we at this moment anticipate. BLAKE, SCOTT & LEE.

NEW YORK, Jan. 9.—Comb honey continues in good demand with supplies pretty well exhausted, and we quote: Fancy white, 15c; No. 1, 14c; No. 2, white, 13c; amber, 12c; dark, 10@11c. Extracted dull with large supplies and quotations on large lots generally shaded in order to effect sales. We quote: White, 6½@7c; amber, 5½@6c; dark, 5@5½c. Beeswax firm and rather scarce at 28@28½c.

HILDRETH & SEGELKEN.

DETROIT, Dec. 20.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

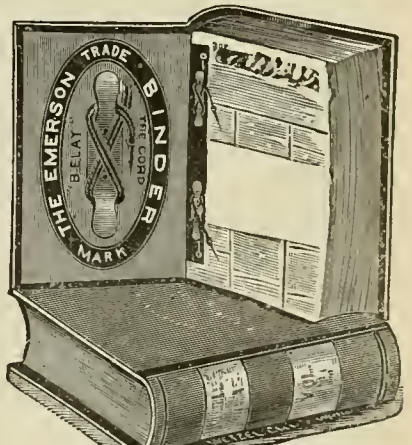
M. H. HUNT & SON.

SAN FRANCISCO, Jan. 15.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

There are no changes to record in quotations, but outside figures are more in accord with jobbing prices than with the views of wholesale buyers. The inquiry is light. Offerings are not heavy, however, either at this center or at interior producing points, and in consequence of dry weather the tendency of values is to more firmness.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee



Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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Standard Belgian Hare Book!

BY M. D. CAPPS.

THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

Price, in handsome paper cover, 25 cents, postpaid; or with the American Bee Journal one year—both for only $1.10.

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CHANGE OF DEPOTS.

On and after Sunday, Jan. 29, all passenger trains of the Nickel Plate Road will stop at 31st Street Station, Chicago, instead of 22d Street, as formerly. The latter station will be abandoned after that date. 1-5A1

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,

The classic in Bee-Culture—Price, $1.25, by mail.

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"FACTS."

Root's Catalog Now Ready

It is a fact that Root's Catalog for 1902, the 91st edition, contains information valuable to EVERY bee-keeper, whether he has one colony or a thousand colonies. The catalog is ready for mailing, and will be sent free to all applicants. If you will give us the names and addresses of 10 or more bee-keepers, we will send you in addition our 40-page semi-monthly journal, GLEANINGS IN BEE-CULTURE, for 3 months free.

Root's Extractors It's a fact that Root's Cowan Honey-Extractors are acknowledged by far the best extractors on the market. You will make a mistake if you take one represented to be "just as good." Our designs are the best, we use the best material, and our workmanship ship is unsurpassed. Insist on "Root's" Cowan.

Danz. Hive It is a 'Fact" that the DANZENBAKER HIVE for Comb Honey, is acknowledged by ALL who have given it a fair trial, the best hive for comb honey.

Gives Best Yields It is a fact that bee-keepers using the Danz. hive get better yields from this hive than any other hives in their yards.

Higher Price for Honey It is also a fact that the honey in Danz. Sections generally sells for a higher price, and always finds a ready market. We have yet to learn of a bee-keeper having comb honey in Danz. sections who had to hold his honey because of a dull market.

Agencies It is a fact that Root's Goods are in demand everywhere. For this reason we have agencies all over the Untied States and upward of 25 foreign countries. A full list of agents sent on application.

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Facts About Bees "Facts About Bees," 7th edition, revised, is now ready. Full of information, and sent to any address for a 2 cent stamp, or free if you mention this paper.

The A. I. Root Company,
MEDINA, OHIO, U. S. A.

GEORGE W. YORK & CO., 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., FEBUARY 6, 1902.

FORTY-SECOND YEAR
No. 6

WEEKLY

MR. WARNER MILLS AND APIARY, OF FRANKLIN CO., OHIO.
—(See page 84.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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MEMBERSHIP DUES, $1.00 a year.

☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Alfalfa Honey--7 cents a pound in lots of 4 cans or more.

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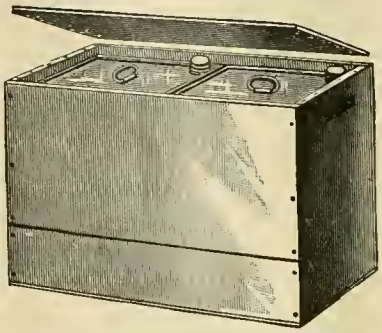
Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞ Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., FEBUARY 6, 1902. No. 6.

Editorial.

Result of the "National" Election.—We have received the result of the balloting for candidates in the election just held by the National Bee-Keepers' Association. The report of the committee is as follows:

TOLEDO, O., Jan. 27, 1902.

We, the undersigned, having this day counted the ballots cast for General Manager and three Directors of the National Bee-Keepers' Association, to fill the vacancies caused by the expiration of the terms of Eugene Secor as General Manager, and J. M. Hambaugh, Dr. C. C. Miller, and C. P. Dadant as Directors, find that 338 ballots have been cast; of which Eugene Secor received 172, the other 166 ballots being cast for 29 different members, the largest number of votes cast for any one of them being 33.

For Directors, J. M. Hambaugh received 180 votes, Dr. C. C. Miller, 232, and C. P. Dadant, 215 votes. The other votes were cast for 109 different members, the largest number cast for any one being 29.

We have also counted the votes cast for and against the proposed amendments of the Constitution, and find that 214 votes were cast for the first amendment, and 93 against it; and 263 votes were cast for the second amendment, and 47 against it.

Committee { A. B. MASON, S. J. GRIGGS.

So all were re-elected. Congratulations to all the honored ones.

Dr. Mason, when sending us the foregoing report, quoted this sentence in his letter:

"Hardly any use to have any election, is it? or so often?"

Then he added this comment, which we believe we agree with:

"ME, TOO. I feel *now* like giving the Constitution another whirl, and provide for electing all officers and changing the Constitution at our annual meeting. Other organizations do it. Our way is a nuisance. There were 30 different persons voted for for General Manager, and 109 for Directors in the recent election."

This is a matter worth thinking about. There is quite a little expense and work connected with a ballot by mail, and it is going to increase with the growth of the membership. The members better think about it and discuss it before the next annual meeting.

Propolosin—which seems to be some kind of a preparation from propolis—is spoken of in very high terms in some of the foreign bee-papers. It is said to be a very healing application in wounds and sores, and it is also said that if one's hands are rubbed with it they will not be stung by the bees. An objection is that it is expensive. If it is really a good thing, Yankee ingenuity ought to succeed in getting it prepared so as to be sold at a moderate price.

"The Truth About Honey"—Mr. C. H Dibbern, of Rock Island Co., Ill., writes as follows, Jan. 24:

EDITOR AMERICAN BEE JOURNAL:—I am greatly interested in your articles on "The Truth About Honey." I have been making some efforts along this line myself, and enclose one of my dodgers, that I furnish with each package of extracted honey I send out. The daily paper printing them kindly inserted the entire matter as an item of news, and it has helped my sales considerably.

I should think that in cases like the Chicago Tribune, a suit for damages by the National Bee-Keepers' Association would be in order. How do bee-keepers generally feel about it? Yours truly,

C. H. DIBBERN.

As to bringing a suit for damages against the Chicago Tribune, we think it would be a hard matter to get at, though we do wish there might be some way to compel newspapers to stop publishing falsehoods about honey. You see, it is quite a little different when an industry or pursuit is libeled, from what would be the case if an individual or firm is libeled. The latter would be able to claim damages, but a pursuit like farming or bee-keeping could hardly have the same standing in court that a firm or individual would have. Of course, that is only our think.. We are not experts in law.

Here is a copy of the wording of Mr. Dibbern's honey dodger or circular, which, by the way, is a good one:

Facts About Honey.

EXTRACTED HONEY is honey thrown out of the comb by means of the honey-extractor. It is simply HONEY without any wax, as in comb honey, and not some sort of "extract of honey" as many people suppose. The reason it is cheaper than comb honey, is that the combs are returned to the bees, to be refilled again and again, thus saving them the labor of building comb, and enabling them to send a much larger force into the fields. It is estimated that bees consume 15 to 20 pounds of honey to produce a pound of wax, and it can thus easily be seen that there is a great saving in returning the combs.

There has always been some prejudice against extracted honey, especially if granulated. People seem to fear that it is adulterated. If honey granulates (looks like lard) it is one of the best tests that it is pure. It is a fact that there is now very little adulterated honey in the market. The pure-food laws are so strict, and detection so easy, that no one can afford the risk, to say nothing about the dishonesty of adulterating it.

If honey is preferred liquid and clear place for a short time in a pan of hot (not boiling) water.

Honey bearing my labels is warranted *absolutely pure*, just as gathered by the bees from the fields. It is cheaper than comb honey, but just as good. You get as much for 10 cents as of comb honey for 15 or 20 cents, and you have left a jelly-glass worth 2 cents, instead of a worthless frame. My honey is filled in glasses while liquid, and left till it granulates, so it will not leak when handled. It is fine. □ *Try it.* C. H. DIBBERN.

Strong vs. Weak Colonies for Winter.—Ulr. Gubler, in the Revue Internationale, says that the smaller the number of bees the greater burden upon each individual bee to keep up the heat. In a colony of 30,000 bees each bee will have only one-third as much heat to produce as in a colony of 10,000. So in the spring the bees of the weaker colony will be much more exhausted and fatigued than the others. Besides, a colony of 30,000 will consume much less than three colonies of 10,000 each.

Get a Text-Book on Bees.—That is sound advice to offer several times each year, because there are all the time, and especially at this time of the year, fresh additions to the readers of this journal. You may think you can get along and keep bees without a text-book. So you can. There are bee-keepers living to-day who began with neither a text-book nor a bee-paper, and they have made a success of bee-keeping. But their success would have been more rapid if they could have had access to the various good books and papers published to-day in the interest of bee-keeping, and you could not now induce them to do without such valuable printed helps.

The question is sometimes asked, "If I can afford to get only one, shall it be a text-book or a bee-paper?" This journal is anxious to get as many subscribers as possible, but if you *must* get along with only one, by all means let the paper go and get the text-book. In it you will find the things that every bee-keeper should have as foundation-stones of knowledge, and without which you will do more or less stumbling. If you have only a single colony of bees, the dollar or so that you pay for a text-book will be very likely to come back to you the first season. If you continue at the business, you will get back its value many times in the future.

Whatever else you get, or don't get, if you can get it without stealing, get a text-book on bee-keeping.

The Size and Place of Entrance being asked, Editor Gravenhorst of Illustrierte Bienenzeitung replies that it should be 3 or 4 inches wide, ¾ inch deep, and about 3 inches above the bottom-board or floor. He considers it bad to have the entrance clear down to the bottom-board, on account of the danger of having it clogged with dead bees. In this country the tendency is toward a larger entrance, and probably few entrances are to be found as far as 3 inches above the bottom-board. Undoubtedly there is an advantage in having the flight-hole so far above the floor that there is no danger of clogging

Commissioner Jones Explains.—In the Modern Farmer we find the following letter from Mr. Alfred H. Jones, the Illinois Pure Food Commissioner, explaining the Chicago Tribune's reported interview with him:

EDITOR MODERN FARMER:—

Your letter of the 16th ult., has been forwarded to me and I hasten to answer same, and in reply will state that I was not correctly reported in regard to the question of adulterating honey in the comb, and have corrected all mistaken notions that may have become circulated on account of the article in the Tribune in my Annual Report as the State Food Commissioner, just filed with the Governor, which will be published in the next few weeks.

I never thought of stating that honey-combs are manufactured out of paraffin and then filled out with glucose. On the contrary, Dr. E. N. Eaton, our State Analyst, as well as myself, have taken the position that the honey-cells made by the bees could not be successfully imitated so as to escape detection. In other words, that all the honey, or nearly so, that we have have found to be adulterated in this State was strained honey, or honey in the comb, in which the walls of the comb had been broken by being thrown into some vessel, and then glucose mixed with the honey that had oozed out from the comb.

Thanking you for your kind letter, I am,

Very sincerely yours,

ALFRED H. JONES,
State Food Commissioner.

Commenting on the above, Editor Emerson T. Abbott, of the Modern Farmer, has this to say:

As soon as our attention was called to the articles which were being published claiming that Mr. Jones had made the statement that comb honey was manufactured by the use of paraffin and glucose, we wrote him to learn just what he did say, and received the above reply. It will be seen that his statements are a long ways from those which the Chicago daily press put into his mouth. His explanation as to how the adulterated honey is produced is not as clear as we could wish, and in further elucidation of the matter we will say that the method of procedure is to take a good quality of honey-comb and cut it up into strips. A few of these strips are placed in a jar and glucose poured around them until the jar is full. This mixture is labeled, as a general thing, "Pure Honey," "Pure Clover Honey," or something of that kind. We have some on our desk now which is labeled, "Kellogg's Pure White Clover Honey, Medina, Ohio." We had one of these samples examined by an expert in Philadelphia, and he reported that it contained only 25 percent of honey. This fraud was perpetrated on the consumers by a firm in the State of Missouri who claim to be in a reputable business. We leave the reader to draw his own conclusions as to the honesty of such a mixture so labeled. If we could have our way every man who persists in placing such goods on the market would find himself in the pen with other frauds.

The other method of adulterating honey is by mixing glucose with pure liquid extracted honey. This covers all of the cases of adulteration which are found on the market, and the man who pretends to say in print that combs are manufactured out of paraffin, and then filled with glucose, and sold for pure honey, writes himself down as an ass or an ignoramus on this subject. He can take whichever born of the dilemma he prefers.

To give this matter more weight, we desire to say that we are authorized by a majority of the Board of Directors of the National Bee-Keepers' Association to offer a reward of $1,000 for a single pound of comb honey which has been so manufactured and does not appear as a fraud on its face.

Now, if some of these smart reporters want to secure a "scoop," here is their chance. Official announcement of this offer of a reward will be made in due time.

EMERSON TAYLOR ABBOTT.

We are exceedingly sorry that Commissioner Jones did not hasten to get a good, strong denial over his own signature in the Chicago Tribune at the time the libelous matter appeared. He could very easily have compelled that paper to publish his correction, or stand a lawsuit on the matter, as, according to his letter in the Modern Farmer, The Tribune simply published a falsehood. In all probability the forthcoming report of the Pure Food Commissioner will have little attention from the daily newspaper press; and, besides, it is so long after the damage is done that it can be of little use in the way of counteracting the evil effects of the slander published by The Tribune.

Weekly Budget.

MR. A. F. FOOTE, of Mitchell Co., Iowa, wrote us Jan. 13, in the following exceedingly kindly strain:

EDITOR AMERICAN BEE JOURNAL:—

I have just read J. P. Blunk's item on pages 28 and 29. I am glad you let it "go in." I, too, say, "Let's have it"—the type-setting machine. I always try to keep a one-dollar bill on hand to send off in a letter when I wish. I have one now in the warm corner of my purse, that I would like to invest in, or towards, a type-setting machine for the American Bee Journal office in some way. Pay another year in advance, or better still, pay double price for the present year. It wouldn't be any more than the paper is worth to do that.

Anyhow, fix it up some way so *we* can have that type setting machine. Not that I object to the "girls"—especially the "cook"—working in the office occasionally, for it adds both dignity and refinement to the place to have them there—offices in general, I mean, of course.

Pass it along. My dollar is ready any time.

A. F. FOOTE.

We hardly know what to say to such a generous letter as the above. "It's so sudden," as the maiden said when her admirer popped the long-awaited-for and important question.

But, really, dear friends, if *all* who are now owing on their *back* subscription would just pay up and *also* pay for the year 1902, the type-setting machine could be bought and paid for at once. There would then be no need of the kind suggestion that all pay double-price, even if the American Bee Journal should be thought well worth $2.00 a year.

It is a very hard matter to know just what to do about subscription credits. So many—surely the great majority—don't want their copies of the American Bee Journal discontinued at the end of the time paid for if not renewed on the minute. And we are glad to favor such by continuing to send it right along, believing them to be honest people who will not only appreciate the courtesy we have extended to them, but will soon pay up and in advance again.

Then, there are some who are willing to receive the Bee Journal right along after the time paid for expires, and when asked to pay for copies they have received, say they "didn't order it;" or "didn't want it;" or "you're a fool for sending it, without pay in advance;" or "when we want a paper continued we will say so"—and many other similar expressions. Certainly, after getting a copy or two beyond the time paid for, and not desiring it, any one could afford to be kind enough to spend one cent for a postal card to ask us to discontinue sending the Journal. The copy or two received would be well worth the postal card used to send the notice.

We did not think to say so much on this subject when starting out, but perhaps it is just as well to place the matter fairly and squarely before our subscribers at this time. We want to please all our readers so far as we possibly can do so. We also want to feel that they will do the right thing by us. There should be a mutual feeling of honor and regard in this matter. From the many expressions of appreciation of the American Bee Journal received at this office, we know it is worth every cent of the dollar asked for a year's subscription—at least to the person who desires to make anything out of his bees and honey. If we did not believe that, we would be dishonest in accepting a dollar a year for it. Of course, if any one thinks it is not worth the dollar, it is his privilege to take some other bee-paper, or not any—just as he may choose. We would never wish to send the Bee Journal to any one who did not want it. But we do not know it is not wanted until we are so notified.

Now, we trust that all who are in arrears on their subscription will, the very day they read this, if possible, send the amount that is past due, and, if they can, add a dollar for 1902. We would be willing to work every night as well as every day for awhile, attending to such letters. We know we want to help you all by sending you a good bee-paper; and we believe you want to help us by paying for such paper. We have never yet run out of plans for improving the Bee Journal. The only trouble has been to get the necessary funds to carry out such plans. But we do not believe in begging in this matter. It is a clear-cut, business proposition. The American Bee Journal is worth one dollar a year to you or it is not. If it is not, we don't want you to keep on taking it. If it *is* worth the dollar a year to you, then why not pay it?

Let us be co-workers along the bee-keeping line, as well as friends and brothers.

MR. WARNER MILLS AND APIARY.—Mr. Mills, whose little apiary is pictured on the first page, wrote as follows when sending the photograph:

While you are publishing so much about bees, and showing up so many large apiaries from all parts of the country, I will send you a picture of a very small affair. I live in the center of a city of 140,000 inhabitants. I use Langstroth hives, make them myself, and love to work with the busy bee.

In my former home, Muskingum County, Ohio, I had more colonies than I can have in the city. I bought a colony of Italian bees from Adam Grimm, of Wisconsin, and changed my stock to good hybrids.

I had all the experience that a novice would have, that is at all ambitious. I am going slower now.

I read "The Bee-Keeper's Guide" and the American Bee Journal, and get enough honey for my family use, and a little for my friends.

I am a veteran of the Civil War, and do not have much to do but work with the bees.

WARNER MILLS.

PROF. A. J. COOK, writing us from Los Angeles Co., Calif., Jan. 22, said:

"We are having a very dry winter. It is very discouraging. We hope yet that rain will come in quantity."

It would be too bad if the honey crop should be short the coming season, just when California bee-keepers are ready to use their new honey-exchange organization.

Convention Proceedings.

Report of the Ontario Bee-Keepers' Convention, Held at Woodstock, Dec. 3, 4 and 5, 1901.

REPORTED BY R. F. HOLTERMANN.

(Continued from page 74.)

Prof. Shutt—We have just received a report from the committee to test the samples of honey, and in three cases out of four their judgment agrees with our chemical test of the quality of honey.

Mr. Darling moved that a vote of thanks be tendered to Prof. Shutt and Mr. Fixter, and through them to the Ottawa Government, for the services rendered to bee-keepers in their experimental work in the analysis of honey, etc. Carried by a standing vote.

TROUBLE WITH A HONEY-DEALER.

R. H. Smith then read a letter from a commission-house in London that sent out advertising and other matter, and he found the firm a fraud.

Mr. Craig said he regretted that the advertisement of the firm had appeared in the Canadian Bee Journal.

Mr. Nolan explained a transaction he had with the same firm; the promise of payment had not been kept, and a portion of his account was still unpaid.

Mr. Brown recommended the exposure of such men, and also that the editor of the Canadian Bee Journal take every precaution to see that parties were responsible before an advertisement is inserted.

R. T. Patterson, upon request, told how he was threatened with a suit for damages in connection with bee-keeping. After some discussion it was decided to leave the matter in the hands of the National Bee-Keepers' Association, of which Mr. Patterson is a member.

QUESTION DRAWER—MR. MILLER IN CHARGE.

Ques.—What is the best season of the year to introduce queens?

Ans.—During the harvest or directly after.

Mr. Chrysler—If this is done extra stores should be provided, as the young queen will rear much brood and draw on the stores.

Mr. Evans—In case of Italianizing, etc., would spring not be an advantage?

ONE-PIECE VS. FOUR-PIECE SECTIONS.

Ques.—Which are the better, one-piece or four-piece sections?

Ans.—Four-piece sections retain their shape better and are stronger for market.

Mr. Smith—Which is more generally used in Canada?

Mr. Craig—50 one-piece to one four-piece.

Mr. Chrysler—The best bee-keepers use four-piece.

Mr. Fixter—Do you not prefer the one-piece split top? We use this.

Mr. Hall—If you took much comb honey you would not advocate the one-piece section.

Mr. Holtermann—Mr. Chrysler is right. The question is not which is mostly used, but do the best comb-honey producers in Ontario use the one-piece section? They do not. They use the four-piece, and I strongly advocate it. There is less breakage with a hot-plate machine; a full sheet of foundation can be attached to the top-bar, and after that the section put together. I know of no machine in which this can be done with the one-piece section. When only a few sections are used, and the cost for the machine mentioned is too great, I believe in the one piece section with the split top-bar.

Mr. Pare—I use a brush with beeswax at the proper temperature—not too hot nor too cold. A block fits the section, and I can put them in very quickly after the section has been put together, and use a full sheet, too.

SMOKER-FUEL, LIGHTING, ETC.

Ques.—Which is the best smoker-fuel, and which is the best and quickest way of lighting?

Ans.—Cedar bark is advocated but it burns out too fast. For lighting, cotton saturated with saltpetre; light the cotton after drying.

A Member—Rotten basswood.

Pres. Newton—Planer-shavings. I throw a handful of grass on top.

Mr. Brown—I prefer rotten ash.

Mr. Armstrong—I use rotten elm, cedar bark and planer-shavings.

Mr. Holmes—Cedar bark.

Mr. Hall—Cedar bark.

Mr. McEvoy—If bees are very spunky, try dry June-grass.

Mr. Holtermann—Try compressed peat-fuel.

Mr. Fixter—Use an old bag rolled up.

PRICES OF HONEY—SHADE FOR BEES.

Ques. Can we maintain the present better prices for honey, and how?

Ans.—Too heavy a question for me, but I believe the Guild will help.

Ques.—Which is the most advisable, natural shade or artificial, when necessary?

Ans.—I like the open spring, but later, shade; not being able to have both, I always place bees under trees.

Pres. Newton—Unless too dense, natural shade.

Mr. Fixter—I believe an apiary in the open is best. If the trees are high it is a great disadvantage for swarms.

Mr. Dickinson—Clip your queens' wings, then you do not need to climb trees.

Mr. McEvoy—I endorse Mr. Miller's statement.

Mr. Pare—I want bees in the open; they work longer.

Mr. Shaver—The same here.

Mr. Hall—My bees work from daylight to dark when there is honey to gather. They are under trees. What more can yours do?

Mr. Smith—I find as to working and results no difference between shade and the open.

Mr. Dickinson—Shelter on the north and west sides is wanted.

OUTDOOR WINTERING.

Ques.—In wintering outdoors is it advisable to pack bees before Nov. 1?

Ans.—I like by October 20.

Mr. Holtermann—I like them packed as soon as I get the brood-chamber ready. By early packing the bees cover the stores, and it is kept in better condition for them.

Mr. Chrysler—I like late packing: the bees learn to cluster during the cold nights.

Mr. Hall—We packed October 16, and I would sooner have done it October 1.

Mr. Shaver—I leave them until Nov. 1st or 10th.

Mr. Armstrong—Does Mr. Chrysler not find the hives moist if packed that late?

Mr. Chrysler—I did not notice.

Mr. Pare—The earlier the better.

EXTRACTED OR COMB HONEY.

Ques.—Which pays better, extracted honey at 9 cents a pound, or comb at $1.80 per dozen?

Ans.—Comb.

Mr. McEvoy—It depends on the hive.

Mr. Shaver—9 cents for extracted pays best.

Mr. Hall—When not much help, comb honey can be prepared for previously and taken off after the flow. I can produce 80 pounds of comb honey to 100 pounds of extracted. If I can get $1.60 I will produce no extracted.

Mr. Dickinson—Are seasons not getting shorter and more difficult to produce comb honey? It strikes me the wax should be considered. I have 200 pounds of wax: if I were producing comb honey I would not have had this.

Mr. Miller—True, but the margin more than counter-balances this.

Mr. Smith—At the price mentioned, section honey pays best. It depends on locality. In the south of Ontario comb honey can be produced to better advantage than in the north.

WEDNESDAY—EVENING SESSION.

Pres. Newton introduced the new president, Mr. Evans, who in a very clever manner thanked the Association for the honor conferred upon him. He took the position with diffidence, especially with the modest vice-president, who considered himself unfit for that position, advising the latter to cultivate more "brass" during the coming year. He was glad to see the good feeling and order maintained; they were more like Italians. (A voice added, "Long-tongued!")

He hoped that next year an increased number would attend at Barrie.

Pres. Evans then called for Mr. Hutchinson's paper on

How One Man, Alone, Managed 500 Colonies for Comb Honey, in Out-Apiaries.

I had hoped and expected to be with you at this convention, but, when at the Buffalo meeting, not dreaming of a conflict of dates, I promised to attend the meeting of the Minnesota State Bee-Keepers' Association, which is now in session. The Chicago convention, which I had hoped to attend, is also in session. Hoping that I may be with you next year, and that you may have a pleasant and profitable meeting this year, I will proceed to tell how one man, alone—Mr. Charles Koeppen—formerly of this place (Genesee Co., Mich.), but now in Virginia, managed 500 colonies for comb honey, in out-apiaries.

He bought bees and increased them, and built up to 500 colonies, under difficulties that would have discouraged an ordinary mortal. Almost his first experience was to buy 30 colonies for $300, and seeing them die of foul brood the next year. He was green at the business, and did not know enough about the disease to recognize it. The bees were in chaff hives, and, by the way, he continued to use these hives as long as he was in Michigan. He disinfected them with a strong solution of carbolic acid; I don't know how strong it was, but he said it ate the splinters off the broom with which it was applied. I presume Mr. McEvoy would say that this precaution was unnecessary. Be that as it may, foul brood never developed in these hives since they were thus treated.

After getting some experience, and a few crops of honey, his enthusiasm and confidence became such that he bought bees largely, going into debt for some of them. Then poor seasons came on, and not only did the bees that were expected to pay for themselves fail to store any honey, but had to be fed both spring and fall. In one instance he fed the bees in the spring to keep them strong, and cared for them all during the summer, only to find they must be fed in the fall, and, rather than do this, he let them go back to the man of whom he bought them, losing his time and the spring feed. It was under such discouragement that he worked away and built up five out-apiaries of nearly 100 colonies each. Then came good seasons, and he was able to buy houses and lots and put money in the bank.

The wonderful thing about this is that he did all the work alone, with his own hands.

Briefly, his methods are as follows: He winters most of his bees out-of-doors, protecting them with chaff. He waits until as late as possible in the fall, sets the hives in a long row with boards at the back and front, and then packs the hives in chaff, putting two inches in front, three or four at the back, and five or six on top, covering all with shade-boards, covers or water-proof building-paper. Some of his colonies are in the chaff hives above mentioned, but he does not like them, as they are too expensive, and too bungling and heavy to handle to the best advantage.

In the spring the bees are looked over, stores equalized and all extra combs removed, the bees being crowed upon as few combs as possible. When the packing is removed, each alternate hive is moved ahead a little, and then in a few days the distance increased until the hives are sufficiently scattered. As soon as the bees are crowded for room, the combs are spread and empty combs put in the center. This is usually done for the first time just before the harvest from white clover. A week or ten days later the colonies are again gone over, and the combs of sealed brood in the center shifted to the outside, the outside combs, that are largely filled with honey, being moved to the center of the brood-nest. At the opening of the basswood flow the brood-nests are again overhauled, and this shifting process gone through with; but in many instances—in fact, in most instances—that is, if the colony is strong enough, two combs of bees and brood are taken away and used in starting a nucleus; their places, in the center of the brood-nest, being filled with empty combs. Each nucleus is furnished with a queen-cell, plenty of which will be found in overhauling the colonies. The empty combs that are placed in the center of the brood-nest at the last overhauling are usually filled, to a great extent, with honey; but, as soon as the flow begins to slack up, the honey will be removed and used in finishing up what sections may be on the hives. It is astonishing how a colony so treated will go on finishing up its sections after the flow from basswood is over.

With this management there is very little swarming, and, as the queens are clipped, the swarms always return, and usually the queens get back into their own hive. If they do not, the fact is shown at the next examination. Mr. Koeppen says that if he can get around and examine each colony as often as once a week, there is practically no swarming. Upon reaching an apiary, if there is not time enough to go over the whole number of colonies, the stronger ones are selected for that purpose.

Comparing one location with another, and one year with another, Mr. Koeppen believes that it is more profitable to keep not more than 50 colonies in a location. None of his apiaries are nearer each other than three miles. His principal honey-resources are white and alsike clovers, and basswood. One of his apiaries was located near a river bottom, and he often secured 25 pounds of surplus in the fall, from this yard, when nothing was secured from others.

During the past three years that he was in Michigan, he secured, on an average, each year, 20,000 pounds of comb honey.

His wife was a Virginia girl and she pursuaded him to move to her old home, else I suppose he would still be piling up comb honey in Michigan. W. Z. HUTCHINSON.

Pres. Evans—The subject is now open for discussion.

Mr. Hall—I am behind; I cannot do this. I am behind the times or too lazy. I cannot run 500 colonies alone. The paper is so vast I cannot take it in. Is it a dream?

Mr. Frith said he thought Ontario had produced nearly 40,000,000 ponnds, valued at $2,600,000.

Pres. Evans did not agree with Mr. Frith.

Mr. Dickinson—It is too much work for one man in Ontario.

Mr. Hall—I can manage 200 colonies when everything is ready in advance, and I can have a horse when I wish.

Mr. Miller—This paper was published four or five years ago in the Review, so it is no dream.

Mr. Holtermann—It seems to me utterly impractical; many matters not mentioned require attention.

A letter was read from Mr. Coggshall, regretting his inability to be present. A vote of thanks was tendered Mr. Hutchinson.

The convention then adjourned to a banquet of its members.

THURSDAY—MORNING SESSION.

The secretary then read a letter from the York Bee-Keepers' Association, showing that the following resolution had been passed, asking the Minister of Agriculture to secure the passage of an act to compel manufacturers of spraying implements, and druggists or others who sell spraying fixtures and mixtures, to label prominently all such implements and preparations with a warning not to spray fruit-trees while in bloom, as specified in the bill passed by the Legislative Assembly a few years ago, entitled "An Act for the Protection of Bees."

Mr. Byer read the following letter from Hon. John Dryden, Member of Agriculture, Ontario:

DEAR SIR:—I beg to acknowledge receipt of your letter of the 11th, drawing my attention to a resolution passed at a meeting of the York County Bee-Keepers' Association, asking for legislation to compel persons who sell implements and material used in spraying to label all such articles with a warning not to use them while fruit-trees are in bloom.

I think I appreciate fully the thought and desire of those who passed the resolution. I am not so sure, however, that it would accomplish much in the direction indicated. The present law is clear, and persons can be fined for violating it, yet it would appear from the resolution that, in the opinion of the members of your Association, it is not strictly observed. I would suggest that another statute would probably be treated in the same manner. It would be very difficult to reach all the parties who handle such goods, and I fear it would be suggested in the Legisiature that the present law is quite efficient, and quite as likely to be observed as the one you suggest in addition. If in any particular section persons violate the law in the direction named, it would be easy to lay any information against them, when they would probably be fined for so doing. This would act as the best warning to all parties in the future in the particular locality.

My information leads me to say that, generally speaking, the law is pretty well observed, as it is of no practical utility to spray while the trees are in bloom; time and material are both wasted, and, when this is understood, there is no object in doing it at that time. Yours very truly,

JOHN DRYDEN, *Member of Agriculture.*

Mr. Byer stated that in his vicinity they had not much trouble. He largely agreed with the views held by Mr. Dryden.

Pres. Evans thought that education went a long way. In his vicinity they had no trouble, the best fruit-growers recognizing that the honey-bee is their friend.

Mr. Byer related how a man in his vicinity offered to pay a bee-keeper if he would place bees on his farm to help fertilize the blossoms. There was a strong feeling to encourage bee-keeping in every possible way.

Mr. Couse told of a man who offered him not only room

to put his bees on his farm but a honey-house as long as he required it; and also to haul his bees a distance of 30 miles free of charge, so strongly was the man impressed with the value of bees as pollenizers of blossoms.

Mr. McEvoy gave the history of the Spraying Act.

A communication from Simcoe Association was read. At the annual meeting a resolution was passed, that the Association wishes the Ontario Bee-Keepers' Association to place permanent placards in public places with that portion of the Act with regard to *prevention of spraying fruit-trees while in bloom.*

QUESTION DRAWER—MR. BROWN ANSWERING.

Ques.—Should honey be strained or skimmed?

Ans.—I strain it.

Mr. McEvoy—Skim, always; say after two weeks.

Mr. Shaver—If exposed two weeks, will it not lose flavor?

Mr. McEvoy—Yes, a little, but if dead-ripe, not much.

Mr. Dickinson—I want honey strained through two cloths, one coarse and another finer.

Mr. Pare—The riper the honey, the less sediment.

Mr. Newton—I agree with Mr. Dickinson. At Buffalo they admired the clearness of Ontario honey.

Mr. Sibbald—It is useless to discuss this any. One should strain and skim.

Mr. Dickinson—There are bee-keepers out to learn and we want to teach them to strain.

James Armstrong—If you have to skim at all why not do away with the strainer?

Mr. Smith—I believe in skimming and straining, but there are lots who do not.

Mr. Fixter—One of the best bee-keepers in Russell county does not strain his honey.

Mr. McEvoy—A sediment settles.

A Member—What you skim off is pollen-grains.

Mr. Holtermann—Do not imagine that pollen will float. The specific gravity of this is greater than honey, as it will sink.

Pres. Evans—I strain honey, but do not skim.

The convention adjourned to meet next year in Barrie.

Contributed Articles.

Selling Comb Honey by the Case.

BY M. A. GILL.

I have read with interest what has been said about the (so-called) Colorado plan of selling honey by the case. I will say that there are some features about comb honey that puts it in the class with cased goods.

We buy our fruit, oysters, and canned vegetables, by the case, and they are retailed by the can, and we don't question whether they are *exactly* pints, quarts or pounds.

Again, if a case of comb honey has been so established that it is, we will say, two pounds short, it is not the fault of the producer, but the manufacturer who has established the size for us to use; however, it does something towards paying us for the trouble and tare on the package, and the great convenience of the goods pays the retailer for what he and the customer imagine as their loss. Most buyers never think of buying any other way than by the case in this section of the country.

The buyer to whom I sold my last car of comb honey the past season, on first seeing the honey, said:

"My people will insist on this honey weighing out 22 pounds per case."

"Very well," I said, "if they will pay me pro rata per pound what it weighs above 22 pounds per case."

"Oh, no," said he, "we don't care if it weighs 30 pounds."

I told him there was 1200 cases of honey, that there was a chisel and a pair of scales, and that he could examine to his heart's content; but that if he bought it, it would be by the case—at $2.80 *per case.*

He bought the honey, and subsequently told me he weighed about 40 cases, and, that it weighed from 22½ to 24 pounds, net. Now he may think he bought by weight, but I think I sold by the case.

Again, it is not always convenient for us to weigh a car load of honey, but we always know it will weigh *so much,* if we have graded it according to the rules of the State Association.

I have known one quite extensive buyer who would buy by the pound, then sell his light weights by the piece and his heavy by the pound. I conclude by this that *all* the virtues are not held by the buyers and dealers.

I insist again that the convenience of the package must, and does, pay the dealer and consumer for the ounce of honey they think they have lost, which, in fact, they have.

When I say the consumer has lost an ounce of honey I want it understood that his loss has not come through the producer, for when we say we want so much for 21 pounds or 22 pounds, we furnish that much. This is as far as our conscience goes—but to my certain knowledge too often the jobber sells what he has bought for 22 pounds as 24 pounds and the retailer sells the piece as 16 ounces if it is light, and by the pound if it overruns. So when the producers are accused of sharp dealing you will find we are not the only "pebbles on the beach."

Mr. Burnett says that after what he has written and said he looks for a lot of ignorance to be dispelled. I hope this is so, for it is always best to get rid of all the ignorance we can. But more surely in the future than in the past will Colorado's crop of comb honey move by the case than by the pound. We will see that it is done upon an equitable basis, but we will enjoy the same convenience as other producers of cased goods.

Boulder Co., Colo.

Extracting House on Wheels—Other Conveniences.

BY A. MOTTAZ.

Last summer, for the second season, I used my extracting house on wheels, with much satisfaction. Diameter 15 feet long by 8 feet wide, sides 6 feet high, roof round, made of 2 thicknesses of one-half inch boards with tarred building-paper between. Floor, inch flooring laid lengthwise on 2x4 resting on two sills 2x8, hay-rack fashion. Frame, 2x2 all around; cotton sheeting tacked on under, and one-half inch boards up and down.

The sills project behind 10 or 12 inches to receive on top a 2-inch plank for a door-step for convenience in going in and out, and also to rest one end of the plank on which is to run the wheel-barrow on when extracting.

Two single sash windows opposite each other, are on each side about four feet from the rear corner; and one in front to see to drive the team.

The wagon or running-gear is an old heavy wagon-gear with Electric steel wheels, 28 and 32 inches high.

The wheelbarrow's wheel is a cultivator iron wheel; the barrow's frame rests on two blocks 5 or 6 inches higher than the wheel's axle; it has long legs in proportion so as to stand about level; the object is to have it on a level with the extracting table in the house, so as to be able to roll it right on the platform, which lies loose on the barrow's frame, and having castor wheels underneath. I have two platforms; when the full one (they hold two hives each) is extracted, it is

HONEY-WAGON OF A. MOTTAZ.

A. MOTTAZ IN HIS APIARY.

rolled on one end of the table to make room for the full one, and then exchanged for it on the barrow.

The extractor, a four-frame Cowan, stands in the middle of the house, on one side, and the straining one-half barrel tub in one front corner, and the cans at the other end and alongside of the house.

I am careful to drive to the nearest and most convenient and level place to the hives. This is kept in mind when placing the hives, and whenever possible I stop on ground having an incline away from the apiary so as to be able to run the house away by hand. When this is impossible we use a rope 100 feet long, and also sheet covers on the horses. We have to use the rope only occasionally.

The house and furniture with 1000 to 1200 pounds of honey make a good load on ordinary good roads.

We are promptly ready for work on arriving. I usually ride alone in the house, my help (usually three), coming and returning in a top buggy. My daughter and two neighbor girls prove first-class help, both to do the work expeditiously and in fixing the house both at starting and finishing.

We extracted last summer about 18,000 pounds in all, including about 1000 pounds of comb honey, from some 200 colonies, spring count; but 60 colonies had been transferred in the spring.

I have quite an extensive retail trade, to the stores in pint Mason jars, and to private customers in pails and in bulk. This will use six or seven thousand pounds. This trade increases every year.

LONG-TONGUED BEES.

I have just read with interest Prof. C. P. Gillette's article on long-tongued bees. I desire to emphasize his remark, that besides long-tongue there is to consider the individual *energy, gumption*, or *get there*, of the bees. Let me illustrate: I have two horses, one is smaller than the other, some older, somewhat stiff, and 15 years old. That horse is very greedy whenever he happens to be cast about for finding something to eat. When hitched up double or single, and reined up, he turns his head on one side, braces his legs in some odd way, and reaches the shortest grass, if only there is any at all. Let him loose in a yard, tight must be the barn and crib indeed if he cannot get something to eat. His neck, or nose, or teeth, are no longer, rather shorter, than most horses, but I believe that if he were put with 99 others in a barren, starved place, in all likelihood he would outlive all the others.

Also, I have some 18 cattle; last fall, when the pasture began to fail, two of them after having fed the grass underneath the lower wire, finally pushed their way entirely through the fence into a clover field. I then put the whole herd into it. Well, the next day the same two energetic cows again pushed their way into a corn-field adjoining, and kept finding plenty of feed. Now is it not so with bees? Will not a bee or a colony of bees with tongues two or three, even four one-hundredths less long tongue, but having ten one-hundredths more energy or greediness and know-how-to-get-there, surpass merely long-tongued bees?

I do not deprecate breeding for long tongues, for this, coupled with the other (and it can certainly be) cannot help proving extra good gatherers.

By the way, I have had working for me a carpenter, a tall fellow, probably six feet and 2 inches, or more. Many times I have seen him reach up to drive a nail high above his head, and apparently above the length of his arm. I would think he is too short by 1, 2, 3, or 4 inches, but every time he would stretch arms, body or legs, or all together, and reach to his nail. He is the only carpenter I ever saw do that. I often thought that he could always stretch or reach another inch higher. All this comes from some characteristics of both the body and brain, or instinct when in animals or insects.

La Salle Co., Ill.

The Truth About Honey—Encouraging Words.

BY C. P. DADANT.

It sometimes seems rather discouraging to see so many false stories pass current about the nature of honey and the adulteration of it, and yet when we look back upon the conditions which the apiarist has had to meet in this country, and upon what he is meeting in the Old World, there are many things that give us encouragement.

When the honey-extractor was first invented by a European apiarist, Hruschka, there was no practical way to separate honey from the comb. Good honey could be secured only by straining the nicest combs, taking good care not to mix the old combs with the new, or to get combs in which any pollen was stored. The average "strained" honey was taken out by heating, and was cloudy, dark, and mixed with all sorts of objectionable things, of which the least disagreeable was the pollen. So those who knew honey in the liquid state, knew only this ugly mixture, and I can recall dozens of instances, in the early '70's, when the consumer would flatly say: "No, sir; that isn't honey. I know honey when I see it. That's sugar syrup that you are trying to palm on us for honey." Then would come a description of honey as the man had seen it: "No, you can't put any of your stuff on me; my dad used to keep bees when I was a boy, and such nice buckwheat honey he used to get; but it was not like that, it was darker. That is altogether too light-colored for honey. None of your sugar for me."

But the worst man to "rub in" the slander was an old fellow who thought he could not eat honey: "No, sir: I can't eat honey; pure honey makes me sick; but I can eat Dadant's honey; it is just right for me; it don't make me sick. I don't know what they make it out of, but probably good sugar."

And so it went for years, and the argument and assertion had to be taken over and over, that the honey was "honey" and nothing else, and that if it was nice, that was a quality and not a fault. For years it was out of the question to get the papers to quote "extracted honey" at all, and they insisted on the word "strained."

Some of my readers will probably say that it is very much that way yet, in many places. That is true, yet the average commission man and the average grocer are quite likely to be informed on the question of honey, and you do not have to begin at the beginning and inform even the educated man—the man of good sense—and every day you meet people who already know the actual facts, and help you to argue your case.

Again, even, if our chemists have done us some harm by repeating stories—for fun or out of ignorance, which is hardly excusable in learned men—we now have chemists who really take hold of the true interests of the pursuit, and their work goes a long way towards helping both ourselves and the consumers. Mr. Eaton, the chemist in charge of honey tests at Chicago, has undoubtedly done work which will bear fruits. The National Bee-Keepers' Association, on the strength of his tests, has begun a work of reform which is showing practical results among the adulterators. For years—yes, for 30 years—we have seen a fraud perpetrated upon the public by dishonest dealers who passed glucose for pure honey, helped in this work by the consumers themselves, who, out of their ignorance, were distrustful of the pure article and disliked granulated honey. Lately, I must say that I have examined a number of samples of such of the stuff as used to be sold openly as honey, and in every case I have found it to be labeled "Imitation *HONEY*," with the disreputable word in small letters of course; but with such labeling there is no need of any one being deceived in what they buy, and I believe that the success achieved is to be credited to the work of Mr. Eaton. There has been enough done to frighten the adulterators in many cases. It is without doubt that there must be a great deal of adulteration yet, but it is getting timid. It feels that

the truth is becoming known, and as we progress the true article will stand a better show every day.

The sale of honey, in my experience, has undergone an evolution which is remarkable. In 1870 one had to drum, and drum, and repeat the history of honey over and over again, with each customer. A few years later the sale had already made some progress, but there was still a chance for the consumer to be deceived, even if he tried hard to become informed. To-day the average man knows what he buys, and the average grocer cannot readily be deceived. True, there are all sorts of incredible stories running about, and it is a real shame that daily newspapers should lend themselves to such humbugs; but the average newspaper is not above relating a big ghost story, or a sea-monster tale, and they (it is sad to say) expect to keep alive by sensational reports. It will take many and many a day to teach the truth to the World, but each day brings a little change and sooner or later the truth will stand supreme. It is very much easier to sell honey now than 30 years ago; it is even easier to sell it than it was ten years ago, and since the new methods are still in their infancy, we must not get discouraged, for it is a slow thing to educate the masses.

Let us never spare a chance to inform the people, to threaten and frighten the adulterators, and we may readily expect that success will crown our efforts. I think it would be well to keep our National Bee-Keepers' Association after the adulterators, and to publish, whenever practicable, all we know about good, true, honest honey. Hancock Co., Ill.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

FORCED SWARMING.

That Colorado plan of forced swarming—sections with full foundation above and only starters below—that's a plan which it will certainly do to watch with interest. Probably a poor plan for a lean locality. And fat locations which have a capricious way of withholding or misplacing the honey-shower may vote it a vexation. Page 798.

AGE OF LARVAE USED IN QUEEN-REARING.

For patient, persistent work in a good cause, and against venerable lies with strong backers, Dr. Miller deserves a medal. Few more honorable forms of intellectual doing good can be found on this globe than just that kind of work. But, ah, me, how the brickbats do fly, in the benevolent chap's direction, sometimes! The bees' choice of 28 young larvæ to only 1 too old larva is a triumph for a valuable truth. In reasonable probability that one was chosen only because lots of bees that wanted to work at that kind of work couldn't readily get at the limited space where the younger larvæ could be had. The ordinary removal of a queen from a full colony would not bring such conditions. It was a serious dilemma that most of the bee-keeping world were in—learn methods unendurably fussy, else not do anything at all at the propagation of their *very best* stock—and Dr. Miller has removed that dilemma. Page 798.

DISAGREEMENT OF LONG-TONGUE DOCTORS.

While I was talking long tongues I failed to notice one sad disagreement between the doctors. Prof. Gillette finds the amount of the variation one-twelfth, while Mr. Rankin finds it one-third of the tongue's length. The former rather seems to infer from the small relative variation that the whole effort is hopeless. The larger relative variation would stimulate us to hope that still larger ones could easily be produced when once Intelligence takes the thing in hand. Pages 789 and 794.

FEEDING BOILED FOUL-BROODY HONEY PROHIBITED.

So (in the laboratory) foul brood has been made to grow after two hours' boiling of the honey? And practically the average bee-man will reproduce the disease in so large a proportion of the trials that the best inspectors now totally forbid all attempts to disinfect and feed foul-broody honey. This is somewhat of a change from former ideas and teachings. Page 789.

THE SELF-WATERING EUCALYPTUS TREE.

I have read with interest many items about the eucalyptus in California; knew it was specially adapted to dry climates, but somehow I never before got hold of the idea that it watered itself by condensing water on the leaves at night. Oft good-sized puddles on the ground, eh? A Yankee trick among trees even if the trees don't come from Yankeeland, but from the antipodes. Howsomever, a Bakersfield Californian at my hand never heard of this, although eucalyptus is plenty there—don't think the puddles would appear where the nights are as dewless and dry as in the Kern River valley. Almost any tree *might* make a puddle when a dense, drippling fog comes up or when the air is saturated, and the night sky clear. Page 807.

DISCARDED HIVE-COVERS.

"I have hundreds of discarded covers of all descriptions lying around." Mr. Bartz, we are not all of us in that condition outwardly, but most of us are in that way inwardly—unsatisfied as to cover. Alas, I fear for your cover, also! Depends for its water-turning powers wholly on muslin and paint—and the slope a mere trifle. 'Spects that in most yards it, too, would soon be chalked, "Discarded." Page 811.

EXCHANGING QUEENS.

To introduce three "superior" queens and lose 400 pounds of honey by it. Well, that's just one of the little incidents in our efforts to climb. Many of us don't know how good our own bees are. And only a small "hunk" of sympathy can we deal out to such an experienced old chap as Wm. Stolley. But the case is decidedly sad when a beginner with 25 really superior queens kills them all off and introduces 25 which are scarcely half as efficient. Still, our efforts to climb should not be left off altogether. It is to be regretted that public competitions in the actual work of different strains of bees are so troublesome and so rare. Page 824.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

GOOD-BYE.

When our good friend and editor, Mr. York, asked me to attempt this department I was no less surprised than startled. I had never "sawed such wood." It would be an entirely new field. Could I do it acceptably? Would my usual duties permit the time? Would my strength prove equal to the added task?

I have a brother whom I have always regarded as almost an ideal man. The fact that he is my brother may have influence to effect the opinion. It certainly did in that I know him so thoroughly. He says he has always regretted that he had not a larger family even to number ten or twelve. Possibly the possession of two splendid boys gave him this longing for still better things. Surely, to give to one's country and the world ten stalwart children, true, vigorous, God-fearing, is a privilege that any of us might well covet.

My lot was like my brother's, though better; for while I had but two children, one was a daughter, and so I have always felt, and do now feel, much sympathy with my brother's longing. I would like a large family; indeed, as teacher, I have always had a large family, and to-day I can count my boys and girls by the hundreds. The thought that he may have done something to lighten the loads, and sweeten the lives of these foster children, is what makes the profession of the teacher so full of pleasure and inspiration.

The thought of the larger family—the great, big family that would be instantly born to me as editor of "The Home Circle" department of the "Old Reliable," I must say came to me as a most toothsome morsel. It would be a precious privilege to share with them all my pleasures in the home, the children, the home pets, the flowers, the neighbors, and the thousand daily experiences that make this earth so delightful and this life so worth living. I could but say, "I will try it." I have never regretted the decision. I come each week, though often wearied and over-tasked, to this part of my full life's work, with only thoughts of pleasure. I really felt that I came to a great home

which was full of those who sympathized with each other, and were in kindly sympathy with me; of those who were kindly tolerant of each other, and so would be charitable with me even though I might stumble on to the wrong thought or unsuitable suggestion. I have meant to give my best, and only good things. That I have always been so happy as to realize my desires, I am not at all certain is true. We can hardly expect to be so privileged even in matters of much less importance and influence in this world of imperfections. I am assured of some success, in the very kind, and, I fear, undeserved words of appreciation and approval that have come to me from numerous members of the dear home circle. It has indeed been a labor of love.

I believe no country is above its average homes. I believe more depends upon the sanctity of the home in making a grand, stalwart nation, than on aught else. So, to-day, it is my proud hope that I may have said some word, dropped some hint, quickened some good purpose, that has worked to make some home truer and better. Surely, if what two have written me—that they always read "The Home Circle" article first, and are always helped by it, is at all shared by many others, then am I glad and happy.

It was no pleasure, then, to write the letter that would sever this connection, and strike from our dear old American Bee Journal "The Home Circle" department. Other duties take precedence, and I am constrained to say, Good-by.

I still hope that the idea may not be given up, but that it may fall into other and abler hands.

We often hear doubts as to the perpetuity of our country. People say, "No republic has lasted, so ours will cease." We do not believe it. Yet there are serious dangers that should make all of us serious and thoughtful: The terrible social evil, the horrid saloon, the labor problem, unequal taxation. What will dominate these evils and preserve us as a nation? A quick, active conscience. The recent election in New York City shows that we have the conscience. If in New York City, then surely in the country at large. If we would make safe our country's future we must all do our little part towards arousing and strengthening the conscience of our people.

When can, and must, this work be done? Surely, as we all agree, in our homes. If our homes are all that they should be, then our Government will feel the quickening, and we shall continue to bless the world.

The greater problems which of late have come upon us make it all the more important that the public pulse as to righteousness be quickened. It seems a great thing, this raising of our whole people to a higher plane; it should make us all feel a higher dignity and a greater self-respect, that in our own beloved homes, where the influence will be reflex, and will react beneficently upon us, we may do our part in this glorious work.

It is my best hope, and my fervent prayer, that I may have done a little in these "Home Circle" articles to bless the homes and enrich their spirit. I come to the last word, "Good-by," with only sorrow, regretting that the pleasant relation might not have continued; and wishing that our limitations were not so obvious. A. J. Cook.

[Perhaps a few words from us might not be amiss, right here. Prof. Cook had an opportunity to do writing for which he could command much higher pay than we felt we could afford to give him, and so we thought he should not sacrifice his good opportunity in order to continue this department. We know his home circle contributions have been greatly appreciated by nearly all our readers.

Of course, the department will be missed, and yet we will use the space thus vacated in a way that will be both helpful and profitable to all.

But, after all, the great majority of those who subscribe for the American Bee Journal do so for the information it contains on practical bee-keeping. We could not hope, within its few pages, to compete with the many rich and varied home magazines that are published to-day. And almost every family has such magazines, as they are so fine and so cheap. So when Prof. Cook decided that he could not continue at the price he was receiving, and that we could afford to pay him for the work, we concluded to devote the space and money to matter we are certain will be appreciated by our readers. It may be more nice pictures, more splendid contributed articles, and more of some other good things.

Of course, Prof. Cook will continue, as heretofore, to give to the American Bee Journal his best articles along the line of bee-keeping. We have several such on hand now. So our readers are not going to lose him, after all.—Editor.]

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—Editor.]

Starting in Bee-Keeping.

I am a bee-keeper and have a mother and myself to support.

1. Do you think it would be advisable for one to start with six or eight colonies of bees?

2. Would it be necessary to have a large piece of ground? Illinois.

Answers.—1. Unless you have some money to throw away, don't think of beginning with so large a number as 6 or 8 colonies. First experiment with not more than 2 colonies, and find out whether you can make a success of the business. You may be well fitted for the business, and you may not. Only trial will tell. If you think of undertaking bee-keeping, get a text-book first thing (you can get one at the office of the American Bee Journal), and familiarize yourself with its contents between this and the time for bees to fly in the spring. The study of a text-book and the reading of a bee-paper, together with practice upon one or two colonies, will start you on the road to successful bee-keeping if there is in you the right material for a bee-keeper.

2. No, a large piece of ground is not necessary. You can get along with not more than 10 square feet of ground for each colony. Some bee-keepers in cities have had no other place for bees than a flat roof.

Finding Queens—Knowing Bees are Not Queenless—Preserving Caged Queen Above a Normal Colony.

1. A queen is found by searching each frame in the hive, of course. But it is something easier that I would like to do. I tried three or four times last fall to catch the queen of a certain hive; I was sure she was there, since I saw the eggs and larvæ. I could never get at her, so I gave it up in disgust. Now, there are various devices to catch rats, mice, flies, etc., why not invent a queen-catcher? I move that a premium be proposed to award the inventor of the best queen-catcher.

2. When we see the eggs or larvæ anywhere in the hive we know that a queen is there. But there are times when the queen stops laying, as in October, generally. Well, now, that is just the time we want to be sure that each colony is provided with a good queen. Don't say, examine carefully each frame, etc. I want to dispense as much as possible with such manipulations. Is there any means of knowing for sure that her majesty is at home, without entering the house? I will relate my experience:

Last fall I had two queens to spare, so I went to a hive which I suspected to be without a queen. I put her majesty in a little cage with *perforated zinc*, and placed the cage in a little box above the frame, with a glass, so as to watch the actions of the bees. They came to see the queen, entered the queen's apartments, seemed to feed her, and by and by lots of bees came and filled the box, so I concluded they were without a queen.

I went to another colony, and repeated the same trick; the bees came, but only in small numbers; after two or three days, they did not seem to care much for that queen; only 8 or 10 were with her. I was surprised that they seemed to treat her kindly, and to feed her. But thinking that they possibly had a queen down below, I removed the caged queen. Afterwards, being a little perplexed about that colony, I went to the trouble of examining every frame. I found no queen, no queen-cell, eggs, no larvæ, no pollen stored, except one frame full of pollen. I feel I should have risked to liberate the proposed queen, but I did not and gave up in despair. Next march I will know, I suppose.

Now, if you veterans have any trick to be sure about the presence of a queen, we novices would be very glad to know of it.

3. Can a caged queen be preserved above a normal colony?

The reason for asking is, that having tried my caged queen (with queen-excluding zinc) over several colonies, I found that (at least in October) the bees did not seem to molest the queen, at least for the two or three days that I allowed them access to her. Having one not-disposed-of queen, I thought I would risk her, in a very small cage, with excluding zinc, above the frames. But, after about a week, when I went to examine my queen, I found her dead. Was the cage too close? Or was there any other reason for starving that queen? I don't know. Queen-breeders ought to know more about it, and if they do I should like to know.

MONTREAL.

ANSWERS.—1. Don't you think a good queen-catcher is already invented? Strain the bees through excluder zinc, and the workers will go through, leaving the queen and drones. One way is to have a queen-excluding honey-board fastened to the bottom of a hive-body. Set this on the top of a hive that contains a frame of brood, then shake all the bees into the strainer. It is a rare thing, however, that it is necessary to resort to anything of the kind. It sometimes happens that you may look over the combs for an hour without finding the queen, and I confess to you that I don't know why. It may be that the queen is hid somewhere in a cell; it may be that she is in some corner of the hive, off the combs entirely. So if you do not find her the second time looking over the combs it is economy to shut up the hive and leave it half an hour or more before attempting further search.

2. I'll tell you a trick worth two of finding whether a queen is present after she has stopped laying. It is to find whether eggs are present before it is time for her to stop laying. If eggs are present in September I don't care to know anything more about it till the next spring. I may mention incidentally that you may often find in September sealed brood and eggs but no unsealed brood. It seems that the queen continues laying for some time after the bees cease nourishing the brood.

3. I have kept a good many laying queens caged over a normal colony, sometimes several in one hive, and I am not sure that I ever lost any of them. But at least in one case, when half a dozen queens were caged over a colony, the reigning, free queen was killed. But these caged queens were in wire-cloth cages; and if I understand you correctly, yours were in cages of excluder-zinc. I should expect to have frequent loss of queens in such a cage. You ask if the cage was too close. I don't suppose that had anything to do with it. I have had queens by the hundred caged in small wire-cloth cages for ten days at a time without loss, and if your cage had been larger the result would probably have been the same. It is possible that cool weather may have had something to do with the case; also the place where the queen was. If she were on top of the frames and the weather cool, the cluster would shrink away from her and she would be deserted, even if no other queens were in the hive.

Improving the Stock Preventing Bees from Flying in Winter.

The climate of northwestern Washington is not just perfect for bees. The summers are rather cool, very seldom getting above 90 degrees in the heat of the day, and quite cool morning and evening, with much cloudy, rainy weather. Bees swarm very little, not more than 25 percent at the most, according to my experience. The winters are mild, usually. The bees fly nearly every day, so far this winter, and they consume a great deal of honey. I lost some last winter from starvation before I knew it. The most experienced bee-man that I know in this country says that Italians do not do as well as black bees; they do not rush out and get chilled in a cool wind or caught in a shower of rain, as much as the Italians.

1. I wish to improve my bees all I can, and would like to know what strain to breed, Italians, blacks, Carniolans, or what?

2. I also wish to know what I can do to keep the bees from flying so much through the winter. There have been times when the roof of the shed and the ground were fairly covered with chilled bees, and when they were apparently dead, if we picked them up and warmed them in the kitchen they would revive and fly to the hive. The colonies get weak from loss of chilled bees, then a cold snap in February ends them. I expect to lose several colonies out of my 40 before spring.

WASHINGTON.

ANSWERS.—1. I'm afraid I can't tell any more about it than you can. The testimony of your experienced bee-friend looks in the direction of blacks being better than Italians. If blacks winter better, and if they store as much as Italians, then the blacks are preferable. But wintering alone should not decide the question. If you could have a fair test of the two kinds side by side for a series of years you could more easily decide. Suppose you had ten black colonies and ten Italians to start with. Give them the same treatment, and the lot that at the end of the series of years has given the most honey for the whole time may be voted the best. You will understand that if there were no winter losses of the blacks and some loss of the Italians that it might be that the Italians might store enough more than the blacks to make up for more than the winter loss. And again they might not.

2. You may do something toward preventing the bees from flying out by shading their entrances. If you will watch the matter you will find that a colony in the shade will not fly out so soon as one into whose entrance the rays of the sun are shining. Place in front of the entrance a board, or boards, of sufficient size to darken pretty thoroughly the entrance.

MAIL BOX TESTS.

Tender-hearted men should not serve on the committee. Each member should be furnished with a heavy club and a dose of nerve tonic Before knocking the samples all over the hall, instruct janitors where to ship the remains of those that fall. If there is more than one survivor, it is a sign you are not hard hitters. Write to-day for description and prices.

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GENERAL ITEMS

A Good Year with the Bees.

I am recovering slowly from the effects of the runaway I had last February. I was able to do the most of the work in the apiary. My bees (145 colonies, spring count) did very nicely the past season. I have sold over $900 worth of honey, and over $500 worth of bees, within one year, and have about 100 colonies left.

Our last Minnesota bee-keepers' convention, at Minneapolis, was a success—the best we ever had. C. THEILMANN.

Wabasha Co., Minn., Dec. 30.

Dealing with Misrepresentations.

Are not persons liable to prosecutions for damage who publish damaging reports against any business where there is no truth in them? If one should publish in the papers that Mr. A. or B. was in the habit of mixing sand with his sugar and thereby injuring his trade, is he not liable for damage? Or of a miller, that he was mixing shorts with the best brands of his flour, by which his sales were greatly reduced, could not that miller maintain an action in court for damage?

Again, if such person were to make a general charge against the whole class of millers

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See honey-offers on page 82.

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(that they were all doing the same thing), and there was not a car-load of No. 1 flour in Chicago, and in consequence all their first-class flour was to remain on hand, or be sold at a reduced price, or not sold at all, is the damage any less? It seems to me that if an action could be sustained against such lying persons, and an example made of them, it would have the effect to close forever the mouths of such characters. Besides, the evidence brought out in such a trial, and published, would be a good educator.

There are samples of honey on the market in this city. One sample is labeled, "Adulterated." That perhaps is all right, and yet there is an effort to deceive as there are good-sized pieces of comb in it. Why that should be there unless to deceive I don't see, when it might be left out without trouble. The other sample is put up by a Mr. Lamon, and warranted pure. Perhaps it is, but why it should not candy I don't know. I can't keep mine from candying. J. C. ARMSTRONG.

Marshall Co., Iowa, Jan. 18.

[It certainly looks as if you had made a pretty good case, but the workings of law are sometimes mysterious. If Mr. A. is falsely accused of sanding his sugar an action would lie, and it seems as if the case would be still worse if he accused a larger number, say all the men who were selling sugar. But would the law so consider it?—EDITOR.]

Successful Shipping of Bees.

I packed and shipped my goods from here on New Year's day, and put in the car my 40 colonies of bees. They arrived here on the morning of the 4th in fine shape. The supers were on, full of dry leaves. One super got loose and let a few bees out, but a little smoke soon settled them.

Yesterday was very warm and pleasant, and they had a fine cleansing flight and I could see no signs of any combs being broken down.

This is my first experience in shipping bees, and I think I have been very fortunate, especially so as I had the car packed full, and had the hives packed three deep in the center of the car.

I could not be contented here without my bees and the American Bee Journal.

H. W. CONGOON.

Monona Co., Iowa, Jan 7.

Colony from a Bee-Tree.

Three years ago I cut down a tree and hived the colony of bees. I packed them in leaves that winter, and they came through in fine shape. They swarmed twice, which made me three colonies, and last season I increased to nine, and got 300 pounds of comb honey in sections.

This year I allowed them to swarm, and sold 8 colonies, and 288 pounds of honey at 15 cents. Besides, I have five 24-section supers on hand.

I have had but little time to look after my bees as I have been away the most of the time. H. A. DICKER.

Cass Co., Iowa, Dec. 28.

Some North Carolina Honey-Plants.

I will give a list of the many honey-yielding flowers of our section, in the order in which they come. First in the spring, ground ivy, then soft maple, buckeye-tree, peach, cherry and plum trees; apples of all sorts; sugar-maple, wild-cherry, blackberry, red and black raspberries, all yielding some honey.

Then comes the poplar bloom about the first of June, yielding a real harvest for the bees, white clover beginning to yield, also red and alsike clover, beginning to bloom. Spring-sowed buckwheat comes about the same time; linden about the first of July, when there is another harvest for man and bees. There is not much bloom of any note through August. September brings another real harvest with the fall asters, golden-rod, Spanish-needles, smart-weed, and many others too tedious to name. A. J. MCBRIDE.

Watauga Co., N. C., Dec. 23.

Swarming All Around.

My bees did splendidly this year. I had 12 colonies, spring count, and had only three swarms, but I caught nine swarms while plowing corn. I caught five in one day and plowed four acres. I thought that was pretty good for a clod-hopper.

My 12 colonies averaged 147 pounds of comb honey to the colony, and my 12 new swarms stored about 30 pounds each. I had

29 Years Selling Direct.

We are the largest manufacturers of vehicles and harness in the world selling to consumers, and we have been doing business in this way for 29 years.

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In flat and made up—at very low price.
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Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

THE RURAL CALIFORNIAN,
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BARNES' FOOT POWER MACHINERY

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

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We save you dealer and jobber profits. **Enough said.** Write for 82nd annual catalog. Mailed free.

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Pioneers of the Free Trial Plan.

F.B.W.CO.

Please mention Bee Journal when writing.

The New Catalog of Prairie State Incubator Co., which we have just received, is probably the handsomest piece of printing ever put out by any firm in the interest of the poultry industry. It is a large volume, pages 8¼x11¼, printed in two colors throughout, with several handsome colored inserts and more than 50 full-page groups, showing scenes on poultry farms throughout the entire country. Besides this there are numerous smaller illustrations. More than 1000 photographs were taken for this book. A full description is given of the Prairie State Incubators and Brooders, and a complete record of their show-record. It is, all in all, a handsome book—a good book—about a good machine built by a good company, which we can most heartily recommend to all our readers. Another attractive thing about the catalog is, that while it cost probably $15,000 to print the first edition, a copy will be sent free to anyone interested in poultry. Write to Prairie State Incubator Co., Homer City, Pa., and please mention the American Bee Journal when writing.

Rather Risky Business,

this buying untried incubators in these days of the perfectly working and surprisingly simple

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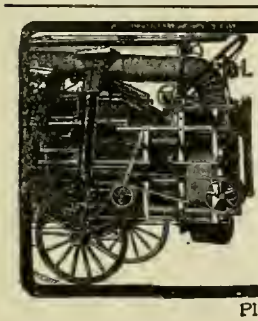
where every fertile egg means a strong healthy chick. Guaranteed to do the work and do it as it has never been done before. **The 20th Century Poultry Book** ought to be in every chickenman's house. You will not part with it for many times its cost. Discusses the poultry business from your view point. Sent anywhere for 10c. **Reliable Incub. & Brdr. Co., Box B 2 , Quincy, Ill.**



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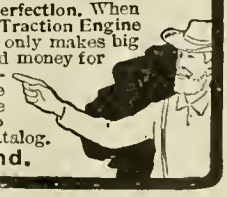

M. RUMELY CO., La Porte, Ind.

Please mention Bee Journal when writing

10 acres of buckwheat that they did well on, and some white and sweet clover which was good.

By the way, there is some talk about red clover queens. I find if red clover does not grow too rank the bees will work on it more or less every year at least they do here. The bees worked more on the corn tassels than I ever saw them do before.

There were lots of bees flying around this year. One man had a swarm go into his chimney; another man had one in a five gallon oil-can; and another in an old cook stove in an out house. I found several bee trees along the river. H. GILBERT.

Jasper Co., Iowa, Jan 1.

Poorest Season in 10 Years.

This has been the poorest season for 10 years in this locality. We did not secure any summer honey and very little fall honey.

I began with 5 colonies, spring count, and secured 130 pounds of extracted honey, an average of 28 pounds to the colony.

Bees were put into winter quarters in fair condition, and the weather so far has been very favorable for good wintering.

I received and introduced a queen all right last summer. I had the colony shut down in the brood-chamber, and as there was a small amount of honey coming in I was endeavoring to get some new combs built. While manipulating them late one evening in a hurry, the queen in some mysterious way was left on top of the honey-board, and the hive closed, and you may imagine my regret when I opened the hive the next time.

So much for hasty work.

J. WILEY MOUNTJOY.

Anderson Co., Ky., Jan. 6.

Another Poor Season.

The past was another poor season for bees in this locality. The weather was very unfavorable during the spring and fruit blooming; white clover was good but did not last long. Nearly the only honey we got was in the fall from smartweed.

We are having spring weather here now; bees are flying, and are carrying out the dead ones. D. E. EVERS.

Otoe Co., Nebr., Jan. 6.

One Season's Report.

I began bee-keeping in the fall of 1900 by buying one colony in a box-hive, which wintered in the cellar and was taken out in good condition in the spring. I increased to four colonies and secured a surplus of 12 pounds of section honey per colony, spring count. They are now in winter quarters in good condition, with plenty of stores without feeding.

I transferred the old colony from the box-hive to an 8-frame Langstroth, and also hived the swarms in 8-frame hives.

The main honey-flow here is from milkweed and white clover. L. V. RICKETTS.

Whitman Co., Wash., Dec. 27.

A Young Bee-Keeper's Report.

Last spring I started a very small colony of bees, I should judge about 10 dozen bees. I got a hive and made 8 frames but only gave them 2 frames. I then gave them 2 queen-cells and in three days the queen was hatched, and in 21 days the hive had an increase of some more bees. Soon it had quite a few more bees so I gave them another frame.

One day my father looked in, and made fun of me, but I did not care. When he saw I was interested in my small lot he fixed them up for me so they looked like bees to him.

Of course they did not store enough honey to winter them, but you know a greenborn can make a fortune in his mind if he does not make it outright. When winter came I put them in the cellar along with some more.

One day last summer we had 8 swarms in one day. Two of them went to the woods, but my sister and brother followed them. My sister was 14 and my brother 8. They followed them about a mile over creeks, hills and through brush, when the bees took a rest, and so did their followers. My father and I then took a hive and went to get them, but it being a very warm day made it bad for us. We got about one-third of them in the hive and then we left the hive on the hillside, but we went home and in the evening we undertook the task of going and bringing the hive home. All the bees had gone in excepting a quart. We left them and Pa carried the hive home on his shoulder. When we arrived home he looked as though he had been boat-

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W Chester, Pa.

riding and the boat had capsized. It being a good season we were well paid, for this swarm filled 140 sections.

One day, about a month later, myself and my sister and brother were out in the woods digging ginseng, and we came to the place where the swarm had settled. I spoke of a quart remaining; well, those bees had built two pieces of comb about five inches wide and nine inches long on the ground. How or why they remained I do not know, but I got the honey and bees and brought them home.

We have 150 colonies of bees, of which 59 are in the cellar and 91 are on the winter stands, and both lots are doing nicely. The past season we got 13,000 pound of honey, and sold the most of it within 20 miles of home, and could have sold twice as much.

I sent some to Washington, D. C., and some was taken to New Mexico, so you see we have quite a large trade of our own.

I am 13 years old. FRED BANKER.

Brown Co., Minn., Jan. 12.

A Beginner's Report.

I became interested in bees by reading the columns on bees in the agricultural papers. Last fall I ordered the "A B C of Bee-Culture," a smoker, and some other fixtures, without having a single colony of bees. I read the book, and made a few 8 and 10 frame Langstroth hives last winter. About the last of February I bought a colony of black bees in a box-hive from a neighbor, and later three colonies of Italian bees in 8-frame dovetailed hives from a bee-keeper 20 miles away. On the first of May I transferred the black bees into a Simplicity hive.

My bees did well considering the poor season, increasing to 16 colonies, and producing considerable honey. They averaged about 20 pounds per colony from goldenrod and asters in October.

In August I subscribed for the American Bee Journal, and received a red clover queen, which I successfully introduced to the only colony of blacks I had. While the weather was warm, the last of October, I packed them up snug for winter.

I think this a fine locality for bees, there being an abundance of sourwood, white clover and poplar, and in the fall many fields are fairly white with asters. There are a great many minor plants, such as catnip, sumac, horsemint, goldenrod, etc. C. L. SAMS.

Madison Co., N. C., Dec. 23.

Hoping for Better Things.

The last two years have been poor, with only one swarm with an average of 30 colonies in the two years, and not enough honey for family use. But I am hopeful the next will be better. JAMES COE.

Van Buren Co., Iowa, Jan. 2.

Loss from Spraying in Bloom.

I have lost most of my bees by people spraying orchards while in full bloom last spring. We had to force them to stop spraying, some of them saying they would rather pay their fine than stop the pump. We walked them out of their orchards, but they "laid out" lots of our bees before we knew they were doing that kind of work.

C. H. LAKE.

Wayne Co., N. Y., Dec. 27.

Bees Did Well.

My bees did excellently well last year. From 8 colonies I extracted close to 600 pounds of as nice honey as I ever took from them, but it is slow sale here. I keep my bees as near the yellow stock as I can, and I think it pays big. Nearly all my queens were superseded in August; I cannot say why, because they were nearly all young. A. J. FREEMAN.

Neosho Co., Kans., Jan. 9.

Report for 1901—Spring Feeding.

I am one of the small bee-keepers. I started in last spring with 10 colonies and had only two swarms. I took from 8 hives about 1200 pounds of extracted honey and about 300 pounds of comb, and as nice as I ever saw. We had a fine yield of white clover in this part of the country, and the aster crop can't be beat.

I have my bees on the summer stands with plenty to live on, though I see them bring out quite a lot of dead bees, when it is warm enough to fly. I am afraid they will be very weak in the spring. About what time should I commence to feed them?

Some Golden queens that I got last summer are hustlers, and don't want to be disturbed much; if they are I find it out, as they are not much of cowards, and they do gather honey when there is any to get.

C. M. KIMBROUGH.

Giles Co., Tenn., Jan. 14.

[If, as you say, they have plenty to live on, don't feed them at all. But you may mean they have plenty for the winter and not enough to last till nectar yields again. In that case feed as soon as weather is warm enough for them to fly freely, and give them an abundance to last till they can gather again. There is more danger of too little than of too much. You will be surprised to see how rapidly they use up stores when breeding gets under full way in the spring.—EDITOR.]

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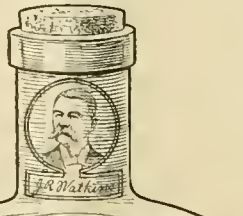

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Largest Incubator and Brooder Factory in the World.

Outlook "A Dry Year."

I have 160 colonies of bees, increased from 90 last year, and produced 9 tons of extracted honey. The outlook is "dry year again." When California bee-keepers begin to "pat themselves on the back" over a good year, they must also prepare to face a dry one. It is a "streak of lean and a streak of fat" with us. A. B. BLAND.

Los Angeles Co., Calif., Jan. 8.

Wintering Bees—A Correction.

I wish to correct one statement in "An Old Timer's Methods," on pages 45 and 46. I do not want it to go out that I put a board in the rabbets on top of the super and place that on top of bees, leaving the whole super space open above the bees, as I was made to say, for that would be reckless. But I cut a board to fit inside the super to rest on the tins, as do the section-holders, making only a bee-space above the frames; then another board is put in the rabbets, then a ventilated cover, and the job is done. It has worked well with me for some time. J. W. C. GRAY.

Piatt Co., Ill.

A Good Report.

My bees produced about $800 worth of honey this year. I sold all of it for 14 and 15 cents per pound. It was nearly all white clover honey. My bees are in good shape for wintering, and all in the cellar. I have over 100 colonies. C. W. ANDERSON.

Bureau Co., Ill., Dec. 30.

Small Honey Crop.

The honey crop was very small here this year on account of drouth, but the bees went into winter quarters in good condition.

LEWIS LLOYD, JR.

Columbia Co., Wis., Dec. 30.

Did Fairly Well on White Clover.

Bees did fairly well the first of the season on white clover, then the drouth set in and they stopped very suddenly. They stored some rather dark honey in the fall, but I don't know where they got it. They seem in good condition for wintering.

We have had quite a cold snap, 12 degrees below zero, with 4 inches of snow. It was 50 degrees above zero yesterday, and bees were out. T. Q. GARMAN.

Gentry Co., Mo., Dec. 23.

Fears Heavy Winter Loss.

My crop of extracted honey this year was 6000 pounds, from 100 colonies, spring count. I am wintering 90 colonies in chaff hives, and they seem to be all right so far, but I fear there will be heavy loss this winter on account of their not rearing any young bees since September.

F. B. FARRINGTON.

Clayton Co., Iowa, Dec. 18.

A Swarming Experience.

July 15, 1900, as I was at work with a shovel-plow hilling up potatoes, I saw a swarm of bees coming straight towards the horse and me, perhaps 20 or 30 rods off. I tried to hurry the horse on, but she stood still until the bees were all around us in no time. I went to try to unhitch the horse, and in doing so she switched her tail, which took my hat off. In an instant the bees were all over my head and the horse was off to the

barn with the plow. When she got to the barn-door the plow caught in the sill, and the horse broke away. When I got home the horse was in the barn, and my head was covered with dead bees, as I had rubbed it all the way home. I first took a pail of the coldest water I could get, and bathed my face and head. I went and served the horse the same way after I got home. There were three stings taken from over one eye. My head was very sore for days. GEO. HODGES.
Allegany Co., N. Y., Dec. 26.

Seem to be Wintering Well.

My bees seem to be wintering well so far. I put them into the cellar about Nov. 20. I have 120 colonies.
This has been a poor year for honey, basswood being the main crop. SAM SEVERSON.
Clark Co., Wis., Dec. 26.

Results of the First Season.

My bees are wintering on the summer stands in double-walled cases with chaff cushions on top of the hives, with plenty of honey.
I started last spring with two colonies in box-hives that I bought; they cast four large swarms, and one of the swarms produced 80 pounds of honey, another 41 pounds, and the other two later filled up their hives well for winter. F. MCBRIDE.
Hardin Co., Ohio., Dec. 27.

No Fall Honey.

I had no fall surplus honey this year; white clover was cut short by the drouth, and we had only about half a crop of it. Bees are doing nicely in their winter quarters. They were out prospecting a few days ago. They had gathered plenty for winter stores.
D. C. MCLEOD.
Christian Co., Ill., Dec. 30.

It Pays to Read.

I cannot dispense with the old stand-by, so I renew my subscription. I had the promise of two new names, and I find at the last minute *they* do not think they will need it. Well, the old adage says, "Where ignorance is bliss, 'tis folly to be wise." My old Journal will have to go the rounds of the neighborhood as usual, I suppose. But I will make them see the need of it another season, if I have success with my bees. They do not believe that what *I* read materially aids my success in securing large yields. It is "all in the location," you know. JOHN W. LYELL.
Washoe Co., Nev., Dec. 28.

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Adam's GREEN BONE Cutter
It runs easily because it has **ball bearings.** It cuts clean, quickly and perfectly. Makes a fine bone shaving such as chickens require. Before you buy send for free catalogue No. 9
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D. J. BLOCHER, Pearl City, Ill.
Ask for our price-list and testimonials.
As we are spending the winter in North Dakota, all our correspondence, whether social or business (until further notice) should be addressed,
D. J. BLOCHER, Denbeigh, N. Dak.
4Atf Please mention the Bee Journal.

The Rumely Co.—Elsewhere in this issue of our paper will be found the advertisement of the M. Rumely Co., of Laporte, Ind. Our readers will remember these people as being the manufacturers of the famous "Rumely" Threshing machines, traction, portable and stationary engines. In keeping with their past, M. Rumely Co. have greatly improved their machines during the past year, and accordingly they are the very best that long experience, superior workmanship and material can devise. Write them for their new illustrated catalog, and kindly say that you saw this notice in the American Bee Journal.

CONVENTION NOTICE.

Utah.—The Utah State Bee-Keepers' Association will hold its annual convention in the City and County Building, Salt Lake City, April 5, 1902, at 10 a.m. This promises to be an interesting convention. All are invited. It is desired to form an exchange for the protection and benefit of our bee-keepers. Come and aid a good cause. It is expected that every county will be represented. J. B. FAGG, Sec.
E. S. LOVESY, Pres.

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is needed to run the **Sure Hatch Incubator.** They are so simple that they run themselves. Made of California redwood, beautifully finished; twelve ounce copper tank, and hydro-safety lamp. Fully guaranteed. Our catalogue contains hundreds of photographs of the **Sure Hatch Incubator** at work, and valuable information. Sent free.
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FOR 23 YEARS THE BEST ON EARTH.
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That covers the whole Apicultural Field more completely than any other published, send $1.25 to
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WANTED 150 COLONIES OF BEES in March or April. State kind of hive and general conditions; also lowest cash price. Address, G. E. P.,
Care American Bee Journal,
6Atf 144 & 146 Erie Street, CHICAGO, ILL.

Please mention Bee Journal when writing advertisers.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 21.—The honey market is of a slow nature with little change in price of any of the grades. Choice grades of white comb honey, 14½@15c; good to No. 1, 13½@14c; light ambers, 12½@13c; dark grades, including buckwheat, 10@12c. Extracted, white, 5½@7c; amber, 5¼@5¼c; dark, 5@5¼c; the scale of prices varying according to flavor, body and package. Beeswax steady at 24c. R. A. BURNETT & Co.

CINCINNATI, Jan. 21.—The demand for honey is fair. Extracted honey is offered freely. Dark brings 5c; lighter, 5¼@6c; fancy, 6½@7½c. Comb, fancy, 15c; lower grades, 12½@13¼c.
C. H. W. WEBER.

ALBANY, N. Y., Jan. 22.—Honey market quiet and firm for all grades of comb honey, of which very light stock is on hand. White, fancy, 15c; No. 1, white, 14c; mixed, 13c; buckwheat, 13c. Extracted, white grades slow sale, and price uncertain. Straight buckwheat extracted scarce at 6c. Beeswax, 28@30c. H. R. WRIGHT.

BOSTON, Jan. 20.—Strictly fancy comb honey in cartons, 15½c; A No. 1, 15c; No. 1, 14½c; very little No. 2 to offer; stock nominally running No. 1 and A No. 1. Extracted, light amber, 7½c; amber, 7c; Florida honey, 6½@7c.
Our market continues somewhat dull in the demand for honey, while stocks are ample for the balance of the season, unless there should be a much larger demand than we at this moment anticipate. BLAKE, SCOTT & LEE.

NEW YORK, Jan. 9.—Comb honey continues in good demand with supplies pretty well exhausted, and we quote: Fancy white, 15c; No. 1, 14c; No. 2, white, 13c; amber, 12c; dark, 10@11c. Extracted dull with large supplies and quotations on large lots generally shaded in order to effect sales. We quote: White, 6½@7c; amber, 5½@6c; dark, 5@5½c. Beeswax firm and rather scarce at 28@28¼c.
HILDRETH & SEGELKEN.

DETROIT, Dec. 20.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.
M. H. HUNT & SON.

SAN FRANCISCO, Jan. 22.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.
Market continues quiet, but is tolerably firm, particularly for choice to select. Spot stocks are of rather small volume, and there are no evidences of much being left in the interior. There is some probability of prices hardening slightly during the next few months, particularly if the spring trade proves to be of good average proportions.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

Tip-Top Glass Honey-Jars

The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.
We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.
If you try them once you will likely use no other kind of top or sealing arrangement for honey-jars.
GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.20	$2.50	$4.50
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	4.00	7.75
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Snowy Wisconsin Sections

AND 1,000 BEE-HIVES

ready for shipment. Send for circular.

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I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

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Bee-Keepers' Supplies OF ALL KINDS *****

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,

The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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"FACTS."

Root's Catalog Now Ready

It is a fact that Root's Catalog for 1902, the 91st edition, contains information valuable to EVERY bee-keeper, whether he has one colony or a thousand colonies. The catalog is ready for mailing, and will be sent free to all applicants. If you will give us the names and addresses of 10 or more bee-keepers, we will send you in addition our 40-page semi-monthly journal, GLEANINGS IN BEE-CULTURE, for 3 months free.

Root's Extractors It's a fact that **Root's Cowan Honey-Extractors** are acknowledged by far the best extractors on the market. You will make a mistake if you take one represented to be "just as good." Our designs are the best, we use the best material, and our workmanship ship is unsurpassed. Insist on "Root's" Cowan.

Danz. Hive It is a 'Fact" that the DANZENBAKER HIVE for Comb Honey, is acknowledged by ALL who have given it a fair trial, the best hive for comb honey.

Gives Best Yields It is a fact that bee-keepers using the Danz. hive get better yields from this hive than any other hives in their yards.

Higher Price for Honey It is also a fact that the honey in Danz. Sections generally sells for a higher price, and always finds a ready market. We have yet to earn of a bee-keeper having comb honey in Danz. sections who had to hold his honey because of a dull market.

Agencies It is a fact that Root's Goods are in demand everywhere. For this reason we have agencies all over the United States and upward of 25 foreign countries. A full list of agents sent on application.

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Facts About Bees "Facts About Bees," 7th edition, revised, is now ready. Full of information, and sent to any address for a 2 cent stamp or free if you mention this paper.

The A. I. Root Company,
MEDINA, OHIO, U. S. A.

☞ **GEORGE W. YORK & CO.,** 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEOROE W. YORK, Editor.

CHICAGO, ILL., FEBRUARY 13, 1902.

FORTY-SECOND YEAR
No. 7.

WEEKLY

APIARY OF T. F. BINGHAM, OF CLARE CO., MICH.—(See page 103.)

THE AMERICAN BEE JOURNAL.

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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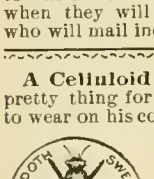
☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Alfalfa Honey--7 cents a pound in lots of 4 cans or more.

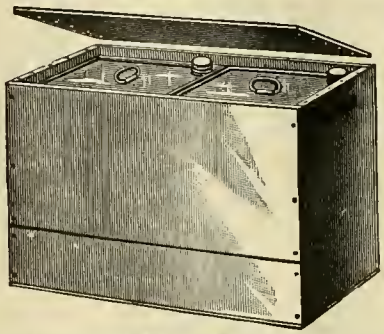
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., FEBRUARY 13, 1902. No. 7.

Editorial.

The Wisconsin Convention was held last week Wednesday and Thursday. There was a fair attendance and a good meeting. All the officers were re-elected, and they are as follows:

President, N. E. France; vice-president, Jacob Huffman; secretary, Ada L. Pickard; and treasurer, Harry Lathrop.

Next week we will have more to say about it, and later we expect to publish a short report of the proceedings, including the papers that were read.

"Sommy" on Adulteration.—Somnambulist opens up his January contribution to the Progressive Bee-Keeper by saying:

"One's faith in humanity as well as one's reliance on one's own senses receive a very distinct shock on opening the American Bee Journal for Dec. 5."

After some racy comments upon the Chicago Tribune article and cartoon, he says:

In this famous or infamous article, as bee-keepers are apt to brand it, one complainant says, "I know of no place in Chicago where one can purchase a pound of pure honey." Poor Chicago! Little "one hoss" Missouri towns can beat that.

Proceeding then to quote that genuine honey may be told by the brown coloring, he comments:

What a fine excuse for a "little more sleep, a little more slumber" along about the time to remove supers; what a grand inducement to the extra-fancy comb-honey producers!

After years of contriving and weeks of hustling to secure unblemished sections, only to be assured that they are not genuine! Too bad!

What a vast amount of maneuvering, and how many sleepless nights might have been saved had this information but reached us years ago. On the other hand, what a crumb of comfort is this knowledge to the slovenly, go-easy bee-keeper. The company of anti-section scrapers may confidently expect new recruits, for if the brown coloring around the cells is an indication of genuineness, the same coupled with a propolis-debauded section would constitute a surety.

After a perusal of the Tribune article it will be hard for some bee-keepers to believe that the "world moves."

Watering Bees in Winter is little practiced in this country. In Germany some bee-keepers consider it very important, while others think it needless if not injurious. Editor Weippl, of Illustrierte Monatsblaetter, says both are right. If the bees have honey that is candied, thick, or tough, they may suffer without water. If their honey is late-gathered, or such as contains a fair proportion of water, then water is superfluous. The water in honey varies from 10 to 25 percent. If there is 18 percent or more, that is all the water the bees need, even in the time when breeding begins. Besides, the bees understand how to increase the supply of water. Outside of the cluster they uncap more honey than is needed for immediate use, and this attracts moisture from the atmosphere. But if the honey be candied or thick, then water in sufficient degree is not attracted from the atmosphere.

The Robber Spotted.—A peasant came one day to the Cadi to complain that his hives had been robbed. "Come to me to-morrow with your neighbor," said the Cadi. Next day at the appointed hour, the peasant appeared with a number of the villagers.

"Imbecile!" said the Cadi; "didn't you know any better than to bring all these worthy people here? Don't you see that the man that robbed your hive has yet a cluster of bees on his turban?" At this one of the men quickly put his hand to his turban, and—was arrested on the spot.—Prak. Wegweiser.

A Honey-Lie Correction.—Mr. Newton Bawn, of Iowa, has kindly sent us a clipping written by Mr. J. S. Triggs, who, unfortunately, helped to keep in circulation the old lie about the manufacture of comb honey. The correction is as follows:

ARTIFICIAL COMB HONEY.

A short time ago we incidentally referred to the manufacture of bogus comb honey, and, judging from the many letters we received, we made a mistake in assuming that any such honey is made, or could possibly be made, and so our readers will please understand that there is no such fraud practiced, and that we never said there was. The bee-men unite in saying that it is a mechanical impossibility to make an artificial comb, fill it with an adulterated sweet and so to seal up the cells that such fraud could not be readily detected.

At the same time, we have before us the statement of an expert of the Agricultural Department at Washington—Mr. Chas. Saylor, of Des Moines, Ia.—in which he refers to this matter as though such bogus product were actually being made. The bee-men can now go for him, and convince him as they have us, that he is in error.

The item which drew forth the criticism was prompted, not so much by what we had read and heard of this fraud, as by the character and quality of a lot of honey which we bought about that time. Assuming that this lot of honey was the pure-quill product of the bees, we wonder what the moral condition of the members of the hive must have been to have produced such an abomination, when it looked so very tempting. They must surely have been foragers on strange grounds and eaters of forbidden fruits—revellers among the bloom of skunk cabbage, henbane and ragweed, distillers of the nectar from malignant and deadly types of the vegetable kingdom. Maybe their queen was dead, or the regular workers on a strike and the drones tried their hand. Anyhow, not knowing that the bees made that honey, the poetic sentiment with which we have always invested the bee is knocked into smithereens, and, hereafter, it, like the ox or the pig, is of the earth, earthy.

Undoubtedly, Mr. Triggs got hold of some rank honey—perhaps some sour, spoiled honey. Of course, all pure comb honey is not of the finest flavor, as any one knows who is at all familiar with honey. But just because a certain honey does not suit one's palate, or is rank from any cause, that is no good reason for saying that it was manufactured by machinery, etc.

We think we'll turn over the Mr. Chas. Saylor mentioned, to Mr. Benton, of the Department of Agriculture, and give him the bee-keepers' full permission to "sail into" him in the way he deserves.

Carbon Bisulphid as an Insecticide is the title of Farmers' Bulletin No. 145 sent out by the U. S. Department of Agriculture. Carbon bisulphid has come into prominence among bee-keepers as an insecticide superior to sulphur, having along with its other claims for recognition the very important one that it destroys eggs as well as wax-worms. This bulletin is probably the best thing of the kind in existence, and it will be well for those interested in the matter to obtain a free copy from Washington.

The following description of its liquid properties is interesting and instructive:

The liquid is one-fourth heavier than water, its specific gravity being 1.29 at the freezing temperature of water. It is very volatile, evaporating with great rapidity when freely exposed to the air. The rapidity of evaporation depends mainly upon the area of the evaporating surface and the temperature of the liquid and the air. It may be retarded by mixing the liquid with various substances, and is wholly prevented by covering the surface of the carbon bisulphid with a layer of water, which, being lighter, floats easily on top, just as kerosene does upon water. The rapid evaporation of the liquid takes up a large amount of heat. If a little be poured upon the hand, a burning sensation will be experienced, which, however, is due, not to a burning, but to a cooling process, as may be perceived by touching the spot with the other hand. No harm need be feared from getting it upon the skin.

When perfectly pure the liquid has an acrid taste and a rather sweetish, not unpleasant, ethereal odor, quite similar to that of ether or chloroform. *Pure* carbon bisulphid is completely volatile, and will not injure or stain the finest fabrics. Even when poured directly upon food-stuffs their edibility is not at all impaired, and all trace of the odor disappears quickly upon free and full exposure to the air. The ordinary commercial article,

however, has a slightly yellowish tinge due to its impurities, which also gives it a rank, fetid odor that is extremely obnoxious. These impurities add to its poisonous qualities. When the impure article is used, some slight residue may be left after the evaporation of the liquid. For this reason this grade will stain goods, and it should not be poured upon foodstuffs, though its vapor will do them no harm.

Liquid carbon bisulphid is not at all explosive, so there need be no fear of handling it, provided the cans are perfectly tight. It is best kept in an out-house where there is no fire and where it is dry, so that the cans will not rust and allow the vapors to escape through leaks. The liquid boils at 115 degrees F., but a few degrees higher than the temperature of the human body. One volume of the liquid is said to give 375 volumes of vapor upon evaporation.

As a vapor, it is 2.63 times as heavy as air, and so can be poured from one glass to another almost like water. Understanding its weight, it will easily be understood why it is directed to have the vessel containing the liquid *above* the combs to be disinfected, and that the vapor will be more dense at the bottom. The first effect of inhaling the vapor is giddiness, and upon the first feeling of giddiness if one immediately gets to the open air to breathe, the ill effects will soon pass off, while death may ensue if the vapor is inhaled for a sufficient length of time. If one should desire to remain in a room with the vapor a few minutes it may be safely done by resorting to the following device:

A large paper bag (20 quarts or more) is tied tightly around a short piece of tubing of glass, rubber, or metal, inserted in its mouth. When inflated, the bag contains sufficient air to enable one to respire into it for several minutes without discomfort. Being very light, it can be carried by the tube in the mouth, thus leaving the hands free for any work desired.

Of course it is understood that the vapor must be confined to be effective, and the amount of vapor needed depends much upon the closeness with which it is confined. One pound of liquid bisulphid to each 1000 cubic feet of space, which is equivalent to 1 part of vapor to 90 parts of air, will, if the vapor be properly confined, destroy insect life in a few seconds, and the same result will follow in 75 minutes if there be one part of vapor to 254 parts of air. The weaker the vapor the longer the time required.

"Carbon bisulphid is put up in tight tin cans or iron drums holding from 1 to 50 pounds. It may be purchased in small quantities of any druggist, at from 25 to 35 cents per pound;" and at a very much less price by the quantity from wholesale dealers or manufacturers.

To destroy ants with this drug, trace the ants to their nests, make one or more holes in the nest with a stick or iron bar, pour into each hole 1 or 2 ounces of the liquid, and then close the hole immediately by stepping on it.

It should be emphasized that bisulphid of carbon is a dangerous explosive if the least spark of fire should touch it.

Working for Wax and Honey.—A. Maujean gives in the Revue Eclectique a plan by which he gets a crop of extracted honey and a considerable quantity of wax, which he thinks costs him nothing. His extracting-combs are spaced 1¾ inches from center to center, and are left in the hive till sealed over. Then they are cut down to 1 inch in thickness, yielding considerable wax.

Weekly Budget.

Out of No. 1.—Unfortunately we have run out of the first number of the Bee Journal for this year, dated Jan. 2. We wonder if some of our readers, who do not preserve them for binding, would not like to send us that copy. If so we will send them in exchange a copy of the song, "Buckwheat Cakes and Honey," if those who return to us that number of the Bee Journal will write their name and address with pencil on the first page before wrapping for mailing.

Mr. Geo. W. Brodbeck, of Los Angeles Co., Calif., wrote us Jan. 25, as follows, when sending a short report of the recent California convention:

"California bee-keepers have been apprehensive of another dry year, as the rainfall up to the present has been below the average, and up to two days ago we had no rain for over two months. The past 24 hours, though, has brought us a fall of 1.32 inches, with a prospect of more, consequently we feel somewhat relieved."

Idaho Organized.—We learn from Mr. E. F. Atwater, that the Idaho State Bee-Keepers' Association was organized at Parma, Jan. 18, with the following officers: President, F. R. Fouch; vice-president, W. F. Schull; general manager, E. F. Atwater; secretary, Miss B. M. Petersen. Membership fee, $1.00 a year.

Success to the new Idaho Association.

Mr. Fred W. Muth, of Cincinnati, Ohio, gave us a pleasant call last week. He had been on a business trip to Wisconsin. The firm of Fred W. Muth & Co. has dissolved partnership, and hereafter it will be "The Fred W. Muth Co.," an incorporated concern, with an authorized capital stock of $10,000, about a third of it being fully paid up. Mr. Muth himself will manage the business, which means that it will be well managed. Handling bee-keepers' supplies and honey will be the business of the new firm, as it was of the old one. Their prospects are exceedingly bright. We wish them all success, which they will certainly have, as they are pushers for business.

"The Truth About Honey" is being published in various newspapers throughout the land. The first to come to our desk containing the Chicago Association committee's report was the Wood County Reporter, of Grand Rapids, Wis.

The next we received was Agricultural Advertising, the sparkling monthly that unfortunately published Mr. John M. Stahl's foolish paragraph on manufactured comb honey, which we reprinted on page 803 (1901). In addition to giving "The Truth About Honey" in full, Agricultural Advertising had this editorial utterance, which shows that its heart is still in the proper place:

Agricultural Advertising has received a score or more protests from honey-producers the country over who object to the strictures laid upon the honey-trade in a paper read before the National Agricultural Press League and printed in the November Agricultural Advertising.

Agricultural Advertising takes off its hat and apologizes to the wardens of the busy bee. Personally they are the salt of the earth, and we believe they never made a pound of artificial comb honey in all their days.

The American Grocer—the leading periodical devoted to the grocery trade—in its issue for Jan. 29, had an illustrated article written by Mr. W. P. Root, an employee of the A. I. Root Co., counteracting the effect of the manufactured-honey misrepresentation, and trying to set the grocers right on the subject of comb honey. It was well done. Every bee-keeper or other person who can influence the publisher of any paper to give the truth about comb honey to its readers will be doing a good thing.

Mr. W. A. Pryal, of Alameda Co., Calif., wrote us as follows, Jan. 21:

"The weather around Christmas was as fine as any summer weather we ever had in this State, with the exception that some of the mornings were a trifle sharp. But the weather was just grand.

We are having nice rains at last. Crops are in splendid condition here, and the prospects are good for an abundant harvest."

Mr. Pryal also wrote us that his oldest sister, "Ella," died Christmas morning, lastly of pneumonia. She was a very bright person, a teacher of a dozen years' service, a gifted artist in coloring, and withal a beautiful character. Mr. Pryal will have the sympathy of all in his bereavement.

The Chicago Daily News.—After reading that the Daily News had published "The Truth About Honey," as mentioned on page 51, a subscriber to the Bee Journal wrote us as follows:

"I am glad to see your good report of the Daily News. I think I will subscribe for it when my time is out on another Chicago daily paper. Why should the News not get some fresh subscribers from bee-keepers on the strength of its attitude toward them?"

We believe that bee-keepers should patronize the papers that treat them right. Editor Smith, of the Chicago Daily News, would no doubt be pleased to hear from the bee-keepers, not only with their subscriptions for his paper, but a letter of encouragement and thanks for his treatment of them would be appreciated. The editor of a daily newspaper has no easy job, especially the editor that wants to do the right thing.

Not a "Fling."—One of our valued readers says this in a private letter:

"I am sorry you made that fling at 'the editors who enjoy showing themselves off in their own papers.'"

Why, bless you, that wasn't intended as a "fling," at all, unless it was a fling at ourselves as well. Wasn't *our own* picture in the American Bee Journal last spring or summer, in connection with two other bee-paper editors? And, once upon a time, *we* had a reproduction of our homely phiz shown inside of a bee-veil, and used it in connection with the word "Editorial" at the head of that department. But, say, we hope our readers forgave us at the time, and have not laid it up against us. We must admit it wasn't a modest thing for us to do, and we promised ourselves we wouldn't do it again. But, then, *we* do and say lots of things that afterward we find would better have been left undone and unsaid. But *we* are not perfect yet. Are *you*, dear reader?

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 23.)

The Relation of Bees to the Orchard.

I will discuss the subject, under three heads:

First, Bees and the monilia fungus;
Second, Bees and pear-blight.
Third, Bees as pollenizers.

Bees are certainly intimately connected with the orchard, both in health and disease. Taking up the first subject, I think I can give you something new. It is probably the least important of the three matters which I shall take up, but it is the newest. I am quite well satisfied from observations made during the early part of the present summer that bees are largely responsible for the rapid distribution of the peach and plum rot fungus. They are not the only culprits connected with that distribution. Wasps and soldier-bugs and several other puncturing insects are also concerned in the matter,and the wasps and the puncturing insects the ones which usually make the openings, especially in perfectly sound fruit. However, bees rapidly follow in the punctures by other insects. In June and July hundreds and thousands of bees may be seen swarming over the early-ripening peaches and Japanese plums, and in going over rotten fruit they carry the spores into the wounds made by the wasps and soldier-bugs, and into weather-cracks. The peaches cracked open badly by the wet weather this year. Oldmixon was the worst in Maryland, but even varieties like Elberta make a great many weather-cracks. Into these cracks the bees penetrated. They even ate large holes in the fruit. I have seen a hole large enough to hold three bees inside of it, and even on gathering the fruit, they were so busily engaged that they were still at work inside the hole.

I have endeavored to follow up this subject a little more closely, and tried to find out how much the monilia fungus could spread without the aid of bees, and investigation showed that it was able to spread without the aid of insects; in other words, it does blow by the wind, and gets about in that way. I covered trees with mosquito-netting, and also branches, and thought perhaps I might be able to prevent the spread of monilia with mosquito-net protection, but was not able to do so entirely. I somewhat reduced it, however, showing that the bees are active agents in the distribution of monilia.

Taking up the second subject of bees and pear-blight, we may say that bees are very active agents in the distribution of pear-blight. In order to understand fully, however, the exact part that bees do play in the distribution of pear-blight, it will be necessary to go very briefly over some other points concerning this disease, and to give, in fact, the life-history of the pear-blight bacillus through the year.

In the first place, we have three methods by which the pear-blight germ enters the tree: First, through the blossoms, resulting in what is commonly called blossom-blight, to distinguish it from the other methods of communication of the disease; second, through the tender tips of growing twigs; but either blossom-blight or twig-blight may run down on the limbs and trunk; and, third, blight may enter directly into the fleshy bark of young trees.

The latter is comparatively a rare method, in fact by far the greater number of infections are directly through the blossom.

Now, of course, it is only in blossom-blight that the honey-bee is concerned, and furthermore, all insects which visit the pear and apple blossoms and quince blossoms are more or less concerned in the matter of distribution on the blossoms. I may say also that other insects than the honey-bee are largely instrumental in the distribution of pear-blight on the twigs, and we have scarcely been able to find a direct, normal method of introduction of the disease in the twigs without the introduction of some mechanical or insect puncture. Beginning with the spring of the year, the disease breaks out on the blossoms. Ordinarily, trees do not have the blight very badly until they come into bloom, and this, as I said before, is mostly due to its distribution by bees and other insects which visit the flowers and are the main factors. The pear-blossom is a very open one and is very extensively visited by a whole list of insects. I started out to get a list of insects which visit pear-blossoms, but when I reached the number of forty, I gave it up. Nearly all the flying insects—the bee being most active of all, but even beetles and wasps, and occasionally even a humming-bird (the latter of course not being insect)—visited the pear-blossoms and carried the disease along.

The blight begins on the blossoms in early spring; then during the summer we may have twig-blight clear into September. The disease runs down on the twigs, and in the great majority of cases dies out. The disease works in the bark and as a rule finds the tree, at some time during the late spring and summer, a little too dry and tough for it to take hold of, and it dies out. Occasionally infections, however, keep running down on the twigs, get into the fleshy bark, and keep on working slowly till fall. After this season of the year, the trees are so moist that those germs will not dry out but will live over winter, resulting in what I call "hold-over blight." It stands zero weather perfectly. In the spring, those hold-over cases start off when root pressure begins and when the tree is forced full of sap. In some instances in the South, very active changes go on in these hold-over cases during mild winter weather, but in the Northern States they don't have time to do much damage. The virus runs out on the sides of the tree and drops down. I saw some very fine cases in the mountains of Virginia last spring. The flies and wasps and other insects swarm on the exuding sap, and as the blossoms open they fly from that to the opening blossoms and start the infection for the next year.

Bloom-blight, then blight running on the branches, then hold-over blight, then re-infection next spring on the blossoms. When it is started on the blossoms, it is carried like fire. Now, as I started to say a moment ago, you would like to have the authentic proof that the bees carry pear-blight. I worked long and patiently on this problem for three or four years. In the first place, the great abundance of blossom-blight leads to a suspicion, at least, that we have here some normal, effective method of distribution. There is some regular way about it, and we shall see what that method is. In the second place, the disease begins in the nectaries. The germs of the pear-blight are found growing and multiplying in this nectar. I determined this mostly by artificial infection. By taking pure cultures of the pear-blight germ and touching the nectary with a camel's hair brush, I started the pear-blight off. It requires no puncture. It is the only point on the tree where the germs enter normally without a puncture. The nectar has no shield or cuticle over it to keep out the germs.

Now my first acquaintance with this relationship of bees to pear-blight came about something like this: When I had succeeded in isolating the pear-blight germ, I immediately tested the validity of my cultures by a series of experiments with a camel's-hair brush on some blossoms, and I inoculated and labeled a number of blossoms around the lower part of a pear-tree on the Agricultural Department grounds at Washington. I spent a good deal of time actually watching those blossoms growing, and of course here came the bees right in front of me, and as the germs began to grow in the nectaries, they began to visit my infected blossoms, and I saw them fly from these over the trees to the other blossoms. I captured two bees, caught them in the act of visiting the infected blossoms, and taking them into the laboratory made plate cultures by the method in which we ordinarily isolate bacteria, and succeeded beautifully in isolating pear-blight germs from the mouth-parts of the bees.

In other words, we actually caught the bees in the act, and this was repeated a number of times and in different parts of the country. Now it seems as though we had matters pretty well proven. My trees that I had infected came down beautifully with pear-blight. The clusters all came down which I had infected and labeled, and a large number of others all around the tree.

The question then was as to what

other methods of distribution the pear-blight germ might have, and I set about with quite an elaborate series of experiments, to find out the truth of the matter. The main question was whether the pear-blight germ was carried by the wind. If it could be blown by the wind, it would not make any difference whether the bees carried it or not, but it was not blown by the wind, it became a matter of considerable importance. So, having gone through one spring in Washington, I moved up to western New York and passed through another spring the same year.

A gentleman near Brockport, N. Y., very kindly turned over a small orchard to me in which I could start a small, artificial epidemic of pear-blight. We inoculated about 6 or 8 trees, and about eight or ten small branches on each tree. Before inoculating them, I covered a large portion of the tree with bags of various density, mosquito-netting, cheese-cloth and paper, reasoning that by covering the trees with mosquito-netting, if the disease is blown by the wind it would certainly blow through the mosquito-netting and appear under the bags.

The disease gradually spread from my centers of infection, but in no case did the disease get through the mosquito-netting, although a large percentage of the clusters broke down, on the trees that were infected, outside of the mosquito-netting. We inoculated blight in the bags and kept it in ; we inoculated it outside, and kept it out.

Now, in further support of the view that I have taken that pear-blight is not borne by the wind, we have two important facts: The first is that pear-blight virus is always a sticky mass, which cannot be blown by the wind. It is a gummy material that can readily be carried by anything that touches it, but not by the wind. The second fact is that the pear-blight germs on drying rapidly die. In ordinary orchard conditions, a few days after the twig dries out the germs die. So that pear-blight germs are not lying around promiscuously. We have no evidence whatever that we can get infection in any other way. So I think you will be willing to accept my proposition, that bees are active agents in carrying pear-blight on blossoms, and that the blight is not carried by the wind.

Now we have been giving the honey-bee such a bad record that it is with great pleasure that I turn to another phase of this subject. Very early in this work, the question came up in my mind, if the honey-bee was doing this unfortunate work, what was its function on the blossoms? The question came up, Are our pear-blossoms of such a nature that they required this insect fertilization by the bees? So I started out to determine the relationship between the bees and the fertilization of the blossom. The result was a long series of experiments lasting over three years.

On account of the limited time, I shall have to state very briefly the results of this pollenization work. In the first place it came out that most of our pears, as a result of careful hand-pollination on tests, are sterile to their own pollen. Cross-pollination is characteristic of our orchard fruits. It is perhaps not true of peaches and quinces, but as far as apples and pears are concerned, cross-pollination is a necessity.

By trying a large number of experiments, I concluded that insects were the largest agents in cross-pollination. The blossom of the pear is not of the type of wind-fertilized blossoms, but is distinctly of the insect-fertilized type. Now this matter is so complicated that it will be impossible, in the short time at my disposal, to go into the details of fertilization. To make the story short, we may say that from the biological standpoint, the bees are doing their normal, natural work in visiting the pear and apple blossoms. The blossoms are for the bees to pollinate, are developed by insects, and the insects have been developed in correlation to them. It is a normal, biological process, the visiting of orchard fruit-blossoms by bees. The bees are there performing their proper function.

Now the question is, Is the honey-bee to be looked upon as useful or as injurious? Do its beneficial effects equal its injurious effects? When there is no pear-blight about, it is easily decided in favor of the usefulness of the bee, but when there is an outbreak of blight, it is a rather hard question to decide.

There are no doubt times when pear-blight is rampant in an orchard, when it would be better not to have the honey-bee or any other insect in there until the blight is past. On the other hand, from the standpoint of the bee-keeper, it can be said that in most cases wild bees and other insects would do a large part of the work, both good and bad, without the honey-bee, so that we could not get rid of the infection of the blight even if we do dispense with the presence of the bee.

I feel satisfied that in the Eastern United States the honey-bee must be looked upon as a useful element in the orchard. I have an apiary in my own orchard. The people in California have had some terrific outbreaks of pear-blight and are very much concerned over the matter, and they have reached the conclusion that they can dispense with the honey-bee as an orchard pollenizer; that their Bartlett pears will set all the fruit that is necessary, without insect fertilization. I have never investigated the subject in California. My only knowledge of the case is due to my observation of California fruits. There are so many seedless Bartlett pears from California that it looks as if they were necessarily self-pollenized, and there may possibly be some truth in their views that their pears will set without cross-pollination. In that case, it moves the thing a little against the bee, and if pear-blight is rampant in an orchard, it would certainly be desirable—at times at least—not to have bees about.

In conclusion, I may say that I have had just barely to touch upon matters of extreme importance that should require an evening for their discussion, but I am prepared to defend my propositions by further explanation, if you find it necessary. M. B. WAITE.

Report of the California Bee-Keepers' Association.

BY GEO. W. BRODBECK.

The echoes of the last step of the departing delegates of the California State Bee-Keepers' Association is faintly passing away, but we trust that the work accomplished and the inspiration engendered will result in the beginning of a new era in the honey-industry of this great State long to be remembered.

The announced meeting was for Jan. 15 and 16, which met in the Chamber of Commerce, in Los Angeles. Pres. G. S. Stubblefield presided, with J. F. McIntyre as secretary.

To the wide-awake and intelligent bee-keeper it has been evident for some time that we had reached a critical period in the history of our industry, and while space will not permit me to define the conditions that confront us, to the observant reader and the California bee-keeper this undoubtedly will not be necessary. Recognizing the prevailing conditions and the danger ahead, the bee-keepers of Southern California met last October and organized a temporary association for the purpose of co-operating in marketing their product, along the lines and methods so successfully demonstrated by the California fruit-growers.

A Central organization was effected, which selected a board of nine directors, composed as follows: G. S. Stubblefield, W. T. Richardson, M. H. Mendleson, G. W. Brodbeck, E. A. Honey, F. M. McNay, H. C. Williamson, D. A. Wheeler, and W. W. Bliss.

The object of this was initiatory to the organization of local associations wherever bee-keepers were disposed to do so. This previous action resulted in the presentation of the project to the members assembled at this annual session, it being the principal theme of the meeting. Mr. A. H. Naftsger, President of the Southern California Fruit Exchange; Prof. A. R. Sprague of the Los Angeles Fruit-Growers' Association, and W. B. Chambling, the father of the exchange system in California—all presented their views and practical experience in relation to this subject, urging upon the bee-keepers the necessity of organization as the only means of the disposal of their surplus product.

Prof. Cook followed with an urgent appeal for immediate action, the result of which was the selection of the following committee: Prof. A. J. Cook, J. F. McIntyre, and F. McNay, with power to select others to aid in the organization of local associations in every county and section.

The Redlands bee-keepers have been the first to fling their banner to the breeze, with the selection of H. C. Williamson as president. When these local associations are completed they will be asked to select a delegate to meet in Los Angeles for the purpose of organizing a permanent Central Exchange, composed of a specified number of directors of their own selection, and who will then supervise and conduct the business of the local associations with the prospective plan for the utilization of the selling agency of the fruit-growers.

The election of officers for the ensuing year resulted as follows: G. S. Stubblefield, president; J. F. McIntyre, Ven-

tura, secretary and treasurer. Executive Committee: F. Mc Nay, Allen Barnett, T. F. Arundell. Vice-Presidents: Geo. W. Brodbeck, for Los Angeles County; H. E. Wilder, for Riverside County; Major G. F. Merriam, for San Diego; M. H. Mendleson, for Ventura; H. C. Williamson, for San Bernardino; E. A. Honey, for Orange; and Delos Wood, for Santa Barbara County.

Appropriate resolutions in memory of Robert Wilkin, R. Touchton, and J. R. Crow, were presented, followed by touching remarks by Prof. Cook and others.

The genial face of "Rambler" Martin was missing, with many inquiries in regard to his Cuban projects.

The following 11 members represented 9000 colonies of bees: J. F. McIntyre, M. H. Mendleson, Emerson Bros., G. F. Merriam, J. McClure, W. B. Whittaker, Dr. D. W. Edwards, Delos Wood, T. F. Arundell, T. O. Andrews, and L. T. Andrews.

The amendment to the constitution increasing the membership fee to one dollar was carried, thus entitling one to membership in the State Association and in the National Association; 48 names will thus be enrolled on the latter, so look out for California!

After a harmonious and interesting session, on motion and considerate action of Mrs. J. F. McIntyre, the Association adjourned to meet next December, during the meeting of the Southern California Teachers' Association, thus securing the benefit of reduced railroad rates.

Los Angeles Co., Calif.

Contributed Articles.

The Tent-Canvas and Tin Hive-Cover.

BY T. F. BINGHAM.

The tent-apiary probably solves the much-written-about hive-cover. Bee-keepers need not be told that material from trees which grows by its ability to absorb water from the air and earth does not lose its affinity for water even years after seasoning, when atmosphere or other conditions favor absorption.

It is practically useless to try to keep bee-hives from sympathizing with the air surrounding, and within them, either in a dry or damp climate.

With the present high price of good lumber, economic considerations would not seem to justify further experiments with wooden hive-covers. No hive is complete without an outside cover that will protect the hive proper against heat and rain. Painted wood costs more if of choice and valuable kinds than tin, and is of no comparative value. This was one of the factors leading up to the canvas tents in the photograph. Lightness, however, was the great incentive to their adoption.

That my apiary has had no other covers than the tin top and canvas sides since leaving the cellar last April is evidence that it can be used.

It may be further observed that such tents are a great pleasure in handling when necessary; they weigh not more than four pounds, and are very easy to manipulate. Of course, my hives are not like any others in use, but any hive having a tin top and a narrow curtain around it to fall down over the sides would do away with all warping features so much written about.

The interior of my hives are practically solid and would stand the out exposure as well as any, but I use the outside arrangement because I think it pays. The top or roof is an unplaned pine board 1 inch thick and 17 inches square. The tin roof is formed at the sides like a square tin pan, by turning down the edges 1½ inches on all four sides. This tin is fastened to the board with nails driven through the rim into the edge of the board. The tent-cloth I use is the common tent-cloth used in tents for hunters, etc. It is split in two lengthwise and cut into pieces long enough to go loosely around the hive, and sewed together so as to form a tube or bag with open ends. It is fastened into or on the cover with strips of lath long enough to make good corners. This lath secures a shallow chamber across the top of the hive ⅜ inch high—dead-air space.

A frame of lath or pieces the length of each side is fastened to the lower edge of the canvas, so it will drop loosely over the interior or main hive. No paint is required if the tin is good enough so it will not rust. If the tin receives a coat of oil every spring it won't rust, and will not absorb the sun's heat.

It seems strange that some of those bee-keepers that have had trouble with combs melting down in the sun have not tried unpainted tin for a roof, or even sides of tin. Tin does not absorb much heat from the sun. It is a thousand times better than any painted wood or iron. A tin-covered hive would not only be moisture proof, but sun proof, and about as cheap as choice lumber.

Clare Co., Mich., Dec. 9, 1901.

No-Drip Shipping-Cases—How to Prepare Them.

BY C. DAVENPORT.

A bee-keeper who was at my place in 1900, when I was putting no-drip shipping-cases together, said I could put two together in less time than he could one. He considered these cases a great nuisance on account of the time it took him to make the paper tray and nail in the cleats or strips the right distance apart in the bottom. If the paper is heavy enough it can be shaped into a tray over a board in the way that has before been described. But with the kind of paper that has been sent out with some of these cases of late, it will not, after being formed around the board, stay in shape long enough to place it in the case. This can be overcome by using a wet or damp cloth to press and form the paper around the board. But I now practice a much quicker and easier way. I have a board of such size that it will just easily fit down inside the cases, the corners on the lower side are slightly rounded and made very smooth and the sharp edge of the whole corners are made smooth with fine sand-paper. The corners, except slightly on the bottom side, are not cut off—simply smoothed. Insignificant as the details may appear they are important.

To put the paper in a case I lay a sheet down on the table and lay the board, rounded corners down, on the top of it so the paper will project evenly all around it. I then raise the paper up and hold it tightly against each end of the board. The paper and board are now placed over the case, and with the board the paper is pressed down to the bottom of the case. These trays can in this manner be placed in very rapidly, and no matter what kind of paper is used it will stay in position. Simple as this seems, there is a knack about it, as some who may spoil a few dozen sheets of paper and spend a few hours' time in learning will be ready to acknowledge.

To nail the strips the right distance apart in the bottom, I use two strips the length of the case, these being marked to show where the center cleats should be nailed. I first nail in the two end cleats, then place in the center ones, and then lay in the two long strips on top of them, one on each side, and the marks on these show just where the center cleats should be nailed. A very short-handled hammer makes the nailing of these much easier, as does starting the nails or staples in the cleats before they are placed in the case.

PUTTING UP SECTIONS OF HONEY FOR THE HOME RETAIL TRADE.

The visitor mentioned was also interested in the way I put up section honey for retail trade. I have for many years sold several thousand pounds of honey each season in small amounts. Part of this is sold at the apiary to people who call for it, and part of it is carried to customers who reside in towns near my home, many of the latter taking a whole case of comb honey each fall, and where a full case is taken I usually furnish a tight and convenient case to keep it in. But at the house and in town a good deal is sold to persons who buy but a few sections at a time, and to furnish a regular case for a few sections is of course out of the question, and sections are, unless one knows how, very difficult to wrap and tie up in paper so the honey will not get broken and mashed up when it is carried for a number of miles over rough country roads.

The way I first did to insure these small lots carrying safely was to take as many sections as might be ordered and set them up close and evenly together on a table, then over their tops I would lay a thin piece of wood—usually a discarded separator—then very small wire nails would be driven down through these thin strips on top into the section; 3 nails were driven through into each section, the whole then turned bottom side up and another strip nailed on the bottom side in the same way. These separators, or whatever might be used, were then trimmed or cut off

even with the sections, which could now be wrapped up in paper to keep out dust. If the package was kept right side up the sections would carry as well and as safely as they would in a case.

I practiced this plan for a number of years before making what might be called skeleton crates to pack small lots in. Aside from the work of making them, which is small, the cost of these crates is insignificant. The end-pieces were made out of cheap lumber one or one-half inch thick—it did not matter which—and were just the size of the outside measurement of the sections to be put in them. For instance, with standard sections these end-pieces would be 4¼ inches square. All the bottom or sides there were to these crates was one piece 1½ or 2 inches wide. I generally used pieces of common building lath. The bottom piece was nailed on so it would be in the center, and the side pieces were also nailed at about the center of each side, and no top was used, unless it was to go an unusually long distance, then another piece of lath was nailed over the top after the sections were placed in.

I used to make these crates of various lengths, to hold from 3 to 12 sections. I also used these crates for years, their advantage over the plan first described, being that after the crates were made it was quicker and easier to put the honey in safe shape to be carried, for all there was to do was to put the sections in a crate, and then tie up the whole in paper, the same as one would any package. But the method I now practice is far superior to either of these. Sections of honey can be done up simply with twine and paper so it will carry practically as safely, and any where, as it would in a regular case.

Before describing how this is done I wish to say that *I* did not discover how to do it—the man who showed me how to do up sections in this way was one who came to the apiary to buy a few sections, and it may be of interest to some to know that I made him a present of a 24-pound case of fancy clover honey, and the next fall I sent him another case. I tell this because it shows what I think of the plan.

Suppose we want to tie up 12 sections; a stout piece of twine is laid on a table, and six sections are set on top of it up close to each other, so the string will be under the center of each. The sections should of course be exactly even with each other. The string is now brought up over the center of the tops and six sections tied together. The only secret of success about this method is to use strong twine and tie them together *tight*. Six more sections are tied together in the same way. The two rows are then set close together and a string tied around the outside of the whole. This last string should be tied so it will be about at the center, or midway between the top and bottom of the sections. If only six sections or less were to be done up, after being tied as first described, the first string should be tied around this one row.

If the sections of honey have been produced without using separators, care should be taken to select some for the ends, one side of which the comb did not come out quite even with the wood, or the strings would mar and damage the outer face of the end section.

I have known sections tied up in lots of twelve in this way to be carried 20 miles over rough roads and without a section moving out of place.

Smaller lots of one row done up this way are practically as safe to carry as one solid section of the same size would be.

Southern Minnesota.

Bees and Grapes, and Shooting Birds.

BY "OLD GRIMES."

Well, Mr. Editor, there is that John Hardscrabble with his picture and his broad-brimmed hat, and that good old smile in the American Bee-Keeper, and just as natural and good looking (not handsome, by any means) as when he and I were boys together. John always had that sunburst look on his face, and so happy.

But I never thought John would take to bee-keeping and religion. Bee-keeping is surely a new wrinkle, and as to religion and being a deacon, why, John, how did you get in, anyway? It is surprising.

Well, Mr. Editor, when John was married to his first wife he lived neighbor to me, and a right happy couple were they. A nice little wife, a nice little farm, and all paid for, and that meant a great deal in those days, didn't it, John?

Well, John had a little vineyard, too, and we came near having a quarrel over it. You see, John came over to my house one morning rather hot in the face, and, said he, "See here, Mr. Grimes, your bees are eating up all our grapes." "Do tell," said I, "but, John, let's not get hot about it; let's go over and see about it."

And what do you think we found? About five bees on his hundred vines.

"Why, John," said I, "it will take those five bees a long time to eat up all of those grapes.

"Why, Grimes," said he, "just look at this whole cluster—every grape full of punctures."

"But, John, you do not believe that a few bees made those big holes, do you? You just watch out early in the morning and you will find that the linnets and other birds are puncturing your grapes; and, of course, when the juice begins to run, the bees go for it, and I am surprised that there are not more bees here."

My explanation looked so reasonable that John cooled down considerably, and said he would watch out for those linnets. John was an honest chap, and in a few days he came over and said, "Brother Grimes, I will have to give up; there are more birds than bees after my grapes, and now I am going to shoot the pesky things."

For the next week or two, or until the grapes were harvested, there was a shot-gun fusillade over at John's every morning.

I knew it would do no good to talk to him while in his destructive mood, but after the grapes were all off to market I went over one evening and we had a talk.

I said, "John, how did you come out with your grapes, birds, and the shot-gun?"

"All right, I guess," said John. "I shot an everlasting number of linnets, orioles and sich."

"And, John, you missed some, I suppose?"

"Yes, we can't hit every time. Yes, yes; but I did not go to see how many."

"John, how much did you get for your grapes?"

"Well, times are awful dull, and there is a big crop of grapes, and prices are low, so I got only 3 cents for them."

"Now, John, do you think if the birds had been let alone they would have destroyed 100 pounds of grapes?"

"Well, neighbor Grimes, that is a hard question to answer; but the fact is, it does not seem as though they would."

"And now, John, how much ammunition did you use?"

"Why, goodness, I had not thought of that; I guess I used about $3 worth."

"And, John Hardscrabble, in order to save $3 worth of grapes you fired away $3 worth of powder and shot. You furthermore killed some of our best friends. Then, you know the Bible says that you must give the birds a portion of the crop, it is by right theirs."

"Why, neighbor Grimes, I never thought of it in that way. I do not believe I will fool away any more ammunition that way."

"You see, John, I had some experience in that line myself. You know king-birds catch bees, and I shot lots of them around my apiary. One year I was afraid they might catch my young queens when on their wedding-flight. But, after all, nobody has ever proved that they catch queen-bees; besides, my queens mate now just as well when there are numerous king-birds as they did when I used the gun. I really think a few king-birds do very little harm to a large apiary, and for every bee they catch I have no doubt they catch some other insect that is not the friend of man."

But now, John Hardscrabble—I suppose I ought to call you deacon but it sounds so queer—I am glad to know that you are prospering, but until I hear from you I shall wonder and wonder how you happened to take up bee-keeping.

And then, deacon in a church—you must have *fallen* in, John.

Introducing Queens with Tobacco-Smoke—Other Important Matters.

BY FRANCISCO BROWN.

There is something wrong with the tobacco method of introducing queens as mentioned in the Colorado convention report, on page 601 (1901). I have introduced a great many queens with tobacco-smoke, and have yet to lose my first one. Last season I introduced 40 that came in three shipments by mail, three to five days en route, and were introduced to various conditions of colonies, some just made

queenless to five hours, others queenless three, four or five days, while there were seven or eight colonies that had been queenless several weeks. Some colonies were very strong, some very weak, and all grades of bees from the crossest hybrids to pure Italians and blacks. I speak particularly of this lot as they were received during an extended honey-dearth, when all colonies in the apiaries (there were three apiaries of about 100 colonies each that the queens were distributed among) were worked up to the robbing pitch, and one to two hours' work at a time was all one could do before robbers forced a stop.

The queens were introduced just at dark, by first going around and smoking the colonies to which they were introduced, with a few puffs of tobacco-smoke in the entrance; the cover was removed, another puff given, and the queen run down on the combs followed with a puff of smoke, and the hive closed. Fifteen to 20 minutes later I went around and gave each colony two or three more puffs of tobacco-smoke in at the entrance.

This is the Henry Alley method, and has been in use 30 years. I used it fully 15 years ago. Mr. Alley uses a tin-tube smoker especially adapted for the business. I use a common Bingham smoker, starting fire with dry rotten wood, filling the box well up, and then drop in about a tablespoonful of Bull Durham smoking tobacco, and shake it down among the wood well. If there are many queens to introduce, add more tobacco when the odor of the first gets weak.

I am well aware that much has been said on this subject, but its value is worth repeating. Queens cost money. From an extensive acquaintance among bee-keepers I know a great many queens are lost in introducing them. The usual candy-cage method (shipping-cage method, I should say) is far from being any where near a universal success.

LONG-TONGUE BEES THE AIM.

Mr. Gill considers long-tongue bees (in the same paper) to be the aim. Right you are, Mr. Gill, or at least if not long-tongued there is some factor we do not understand. One of the largest yields of honey I ever had, and the largest by nearly double of any in the whole yard (and three yards), was from a colony whose queen kept only five or six Langstroth frames full of brood, say 30,000 cells of brood. There were plenty of other colonies in the yards that had 10 to 12 solid frames of brood for weeks, but when it came to the honey crop they gave only 80 to 120 pounds each, while the one colony, singled out above, gave 240 pounds of comb honey.

Each year for three years that one colony has given 50 to 100 pounds more honey than the general run of good colonies. The one pity is that the queen will not transmit her extra qualities to her daughters, notwithstanding a number of trials. They are hybrid-Italian crossed with extra blacks or Carniolans, are not robbers and so don't steal, but are honest gatherers.

On three occasions I have removed the queen with a frame of brood to another colony and introduced a pure Italian queen, thus I know that the bees live longer than the average. Who can tell why this is?

BREEDING BEES FOR HONEY-PRODUCING QUALITIES.

For years we have been told to pick out our best colony to breed from—the one that gave the biggest yields. And what have we got in most instances as the results? Just what we might have known we should get if we had stopped to study it out—a lot of colonies with all varieties of yields, from zero up to big yields; no uniformity except it came by a fortunate chance.

The gist of the matter is, breed from a queen that comes only from good, average yielding stock, and that transmits a uniformity to her daughters; then breed from those daughters that show a general uniformity of good, average yields, and go upward by degrees, not by one leap.

I must confess that I have been led astray by the false idea of breeding from the extra-big-yielding colony, and as a result I have continually to be culling out worthless queens that run so far below the general average yield as some of their sisters go above it. We cull out the poor ones and then think next year surely we will have all good ones to start with—we shall be on the upward tendency—but, lo, when new queens come on to replace the old ones or by swarming, we have the same old trouble—lots of them gone backwards.

In a small apiary of a dozen or two colonies it does not show much, but take it in a large apiary, and several apiaries combined, the sporting back is too plainly seen.

What is the remedy nearest to hand? Record-books and pedigreed queens. We may not be able to know about the drones—it may not be needed so much—but we *must* know that a queen will transmit her qualities *uniformly* good, let them be only a good average for a starting-point.

Pedigrees should be sworn to, and breeders should be required to furnish queens that give a *general* uniformity of results.

Dick, Tom and Harry rearing and shipping queens has certainly deteriorated the quality of the bees in many an apiary throughout the land. There are many good, responsible breeders that can soon furnish a record and pedigree of their stock, and we should patronize them. Florida.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

SELLING HONEY BY THE CASE VS. WEIGHT.

Suppose Burnett & Co. buy 2100 pounds of honey. It arrives—weight short—and they go before a jury to recover their rights. We have a general idea of what their chances would be. Now suppose again: They buy 100 *cases* of honey, to be cased according to Colorado rules. When it arrives, short just as many pounds as the other lot was, would they stand as well before the jury? I suspect there are many jurors that would say: "Things must not be drawn too fine in this rough-and-tumble world. These commission chaps bought 100 cases and got 100 cases. Let 'em be satisfied." My suspicion may be wrong—but if it is, it is valid all the same, providing the commission men share it. They will not favor a change which they *think* damages their legal standing. It would be nice to save the long and fussy job of finding the exact weight, in each case of a car-load of honey—but—. 'Spects there'll have to be an "Honesty Department" in each bee-paper, and every bee-man a subscriber first. Pages 819 and 822.

FOUL BROOD IN MICHIGAN.

For 402 foul-broody colonies to be scattered through 206 apiaries appears quite singular. Looks as if the disease in Michigan had taken a sudden and rapid march in all directions; and as if but few apiaries had been infected more than a few months. Why thus, if so? One would expect 206 infected apiaries to yield at least a thousand infected colonies.

The general ignorance of apicultural needs and rights comes in very badly here. Clean out the disease in your locality and directly you are in bad odor, and accused of being a bad neighbor. Not only those who had a few neglected bees, but those who didn't have any bees, side against you. Page 823.

GLOSSOMETER FOR MEASURING TONGUES.

While every one is thinking and talking long tongues, some supply firm ought to offer Cook's Glossometer for sale. Still I think it has weak points which some future instrument may remedy. A mere smearing of sweet will quickly become too thick for the best satisfaction. Also, if you will observe *very closely* a bee's ligula operating in a state of nature, I think that you will join me in saying that the bee values, and perhaps decidedly needs, some surface to one side of which the finger-like ligula tip can be flipped against—one smooth surface at right angles and extreme distance not being favorable. Too much like picking up distant grains of wheat with the tip of your finger. We are too prone to forget that the bee cannot *suck* honey exactly as a boy would suck cider through a straw—has to coax it up some other way. Page 4.

ACORNS AND QUEEN-CELLS.

Many of our Pin Oak and Yellow Oak acorns are no bigger than a queen-cell, dear Boss. You just quit now from leaning across the ocean and punching your Australian

brother with the "shooting-stick!" Perchance some of your own "subs." need punching more. Page 3.

A CO-OPERATIVE UNION AMONG BEE-KEEPERS.

Wish I could second Prof. Cook's desire that the farmers form a co-operative union (trust, under a mild name) and get better prices. Can't do it. If farmers form a trust political men now engaged in trying to bring the great trust evil under control, will get right out from under, and all hopeful opposition to extortion will collapse. Just now the people are being helplessly scooped of multi-millions on their coal and their sugar and their oil and their transportation. This done for no service or reason at all except the conscienceless power of the scoopers. Flour, and everything else necessary to life, is likely to suffer in the same way unless help is found quickly. The trust method, I freely grant, is a millennial method; but the Millennium is not here yet. Leaving your watch and money on a post by the roadside will be all right in the Millennium—won't do now. Combines *could be* wholly beneficent—at present sure not to be.

A second reason why I cannot do it, is that the farmers themselves are not up to the moral level that would be required to make it safe. Next to flour the potato is civilized man's food. Owing to a short crop it is expected that people will pay twice the usual price for potatoes for the next five months. A trust with all the supply under control would easily get three prices instead of two. It would be simply and flatly wicked to do it; but it would be done, and the average farmer would approve. Alas, it's only when somebody else takes *his dollars* for no reason except the brutal power to take them, that the average man can see any sin in devouring! Page 4.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Running an Apiary with But Little Increase.

1. I wish to run my apiary with but little increase. What would be your plan to that end?

2. I had thought of destroying most of the queens about the time basswood comes in bloom; then about the time queen-cells are ready to hatch destroy all but one. Then the progeny of this new queen would be ready for the fall flow. Then, again, I had thought instead of killing, caging her. If I do that and put her cage between the frames, would the worker-bees feed her?

3. If I do that, would they start queen-cells with a view of superseding her?

4. If in either case, either killing or caging, would the bees be likely to fill the combs with honey as they hatch out?

IOWA.

ANSWERS—1. I hardly know how to answer your question. There are so many different plans and combinations of plans, some of which would be best under some circumstances and some under others. One plan that I followed with much satisfaction, so long as I had some one on hand at all times to watch for swarms, was a plan originating, so far as I know, with G. M. Doolittle. When a swarm issues, cage the clipped queen and put her in the hive. About 5 days after the issuing of the swarm destroy all queen-cells, or at least all sealed cells. Ten days after the issuing of the swarm destroy all queen-cells and liberate the queen. In that way you can prevent increase entirely, if you so desire, and I got good crops by it.

2. The first plan you mention might work all right, but it would be well to go slow till you know. Unless you are unusually good at finding queen-cells you would miss a cell in a good many cases, then out would come a swarm with a virgin queen. Possibly a modification of the plan might suit you. After removing the queen, wait till the first young queen hatches, which you will know by listening for her piping in the evening, beginning to listen 10 or 12 days after removing the queen. The next morning after hearing the piping, destroy all cells, paying no attention to the young queen. That ought to end all swarming and the plan would have the advantage over your plan, that you would be sure of your queen hatching all right, and you would be likely to average a better queen than if you arbitrarily chose one of the cells. The caging plan you mention I tried, but it was not satisfactory with me. I think others have liked it better.

3. When the queen is caged, you may count that the bees will almost certainly start queen-cells.

4. Yes, to a large extent.

Honey on Foundation—New-Style Section.

1. Is it the usual thing that comb-foundation honey sells for 5 cents a pound less than that made without foundation, as D. H. Metcalf says on page 59?

2. What is the new style of section that he tells about, in which bees will build combs more true and perfect than with foundation furnished them? SUBSCRIBER.

ANSWERS.—1. I think that the usual thing is that comb honey built upon foundation will sell for more than that without foundation. It is possible some one may have used brood foundation, or done something else to make his honey unacceptable, but as a rule I think that the highest prices are obtained by those who use foundation.

2. I don't know; and I am skeptical about bees building more true and perfect without foundation than with it.

Early Detection of Foul Brood.

1. Proceeding on the McEvoy plan of curing foul brood, are the bees confined while they are kept on the "starters" the first four days, or are they allowed to fly at their will?

2. How can one detect the disease in its incipent state? It seems to me that it would be difficult for an amateur to detect it until it had made a considerable progress. For instance, if only a few of the larvæ in a full comb of brood are affected, one might have a big job to find them. I will need to be on the lookout as soon as the hot weather comes, for the development of the disease among my bees, and what I feel I am not fully posted on is the method of detecting its appearance. If I can get informed on these two points I feel confident the disease will not get much of a start in my apiary.

OHIO.

ANSWERS.—1. They are not confined. If they were to be confined, there would be instructions to that effect given with the treatment.

2. You are right; it is not only difficult to detect the disease in its incipient state, but impossible. You'll have to wait till the larvæ are very much dead.

Hand-Fertilization of Queens.

Inclosed you will find a paragraph that I copied from a report of Nelson W. McLain, apicultural agent of the Department of Agriculture, who made experiments with bees at Aurora, Ill., in 1885. I have looked through other reports of the Department of later years but could not find anything further on this subject, which, if it is practical, would be a great thing for bee-keepers.

If you think this is worth publishing in the American Bee Journal, you are at liberty to do so. It might lead to further experiments among the younger bee-keepers, who might make a success of it.

In Mr. McLain's report he tells of experiments made in trying to fertilize the larva, and also when the queen is just hatched, but he met with no success, except in the latter case, which you will find in the inclosed article.

I hope to hear more on the subject through the Bee Journal. MINNESOTA.

The paragraph from Mr. McLain's report reads as follows:

When the virgin queen was 6 days old orgasm occurred, and on the evening of the seventh day we removed her from the hive and placed drops of the male sperm upon the vulva as she was held back downwards, by gently grasping the thorax between the thumb and finger. The instant the male sperm was pressed from the testes and seminal sack of a mature drone upon the excited and distended vulva, it was curious to observe the effect. The action of the abdomen and vulva resembled that of young birds while being fed. There was the reaching up after the seminal fluid, and an action of the parts resembling the opening of the mouth and swallowing food. As much seminal fluid as could be obtained, by the imperfect method employed, from three or four drones, was utilized and readily absorbed by the queen, after which her wings were clipped, and she was dropped on a frame covered with bees and returned to the hive, and the bees were liberated. Up to this time her appearance and actions were those of a

virgin queen. The next morning, 12 hours after exposure to the seminal fluid, her abdomen was distended, and her appearance and actions in all respects were those common to fertile, laying queens. She was moving about slowly over the combs, and peering into the cells, and in 24 hours afterwards she had 400 or 500 eggs. In due time the worker-larvæ appeared, and at this date (November 13) worker bees in considerable numbers are being hatched. We then reared two queens from the eggs laid by this artificially fecundated queen, in queenless colonies, and as soon as they were hatched I clipped their wings, and when orgasm appeared they were treated as before described, and in three days one laid a few eggs in worker-cells. The other has the appearance and action of a fertile queen, but has laid no eggs, and the lateness of the season forbids advantageous continuance of the experiments.

ANSWER.—The success claimed by N. W. McLain in fertilizing a queen by hand was well known in bee-keeping circles, and the fact that the thing has never been repeated by him or any one else, in all these 16 years or more, gives some ground for the belief that no such success was ever attained. He reports success in three cases. If you should succeed three times, do you think you would then drop the matter entirely?

Perhaps Suffering From Bee-Paralysis.

My 6 colonies of bees are all dying out, apparently, of a disease with which I am not at all acquainted. A bee will come out of the hive, and other bees will gather around it, and seem to trim it. There is no show of anger by any of them, but sometimes a strong bee will rise and fly off with one of those diseased bees, but which is sometimes able to fly very well. Thousands seem to die daily. Can you tell me the cause, and remedy? ARKANSAS.

ANSWER.—Most likely the trouble is bee-paralysis, which subject please look up in your text-book. Unfortunately, you will not get a great deal of comfort from such consultation, for many remedies have been given, some of them vaulted as sure cures, but further trial has not confirmed the belief in their efficacy. The fact is that in many cases the disease disappears of itself, and then whatever remedy was used last has the credit of the cure. While the disease is generally of so little consequence in the North that it need not give any uneasiness, in the South it is sometimes very destructive. Among the remedies offered are changing the queen; spraying the combs with salt water, or a solution of carbolic acid and water; and transposing the colony. The last named is one of the latest offered, and it is just possible it might be worth while to try it. Simply let the diseased colony change places with a strong, healthy one. The "A B C of Bee-Culture," while saying "we know of no reliable cure," gives the transposition treatment and says:

"The rationale of the treatment seems to be that the bees of the ordinary colony having bee-paralysis are too much discouraged to remove the sick; as a consequence, the source of infection—that is, the swelled, shiny bees—are allowed to crawl through the hive at will. But when the colonies are transposed, the healthy, vigorous bees of the sound colony carry the diseased bees entirely away from the hive. The sick and dying being removed the colony recover."

Prevention of Increase.

I have 25 colonies of bees that I run for section honey. I don't want any increase, and will not have any empty hives for the swarms that may issue. How should I manage them to get best results? What should I do with the swarms? Would I gain anything by uniting two colonies in one hive, in the spring, thereby having some hives for the swarms?

TENNESSEE.

ANSWER—I don't know enough to say for certain what plan will bring the best results. Here's one plan that might be worth trying: Have all queens clipped, and when a swarm issues remove or kill the old queen. A week later begin listening each evening for the piping of the young queen. When you hear her piping, go the next morning to the hive and destroy all queen-cells, paying no attention to the young queen. Two weeks later look to see if brood is present, and if not give them a queen.

Yes, it might be well to unite in the spring any that are not tolerably strong.

Is It Wise to Guess at Results

when you may be absolutely sure about it?

If the eggs are good and you put them in a

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and follow instructions, you are sure to get a satisfactory hatch. If you put the chicks into a

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you will raise every one that could be raised in any other way. Our **20TH CENTURY POULTRY BOOK** tells why and a hundred other things every poultry owner should know. Sent for 10 cents. We have 115 yards of thoroughbred poultry.

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More people might do well if they would order this honey, or basswood, and sell it. It not only goes off "like hotcakes," but it is mighty good on hot cakes.

See honey-offers on page 98.

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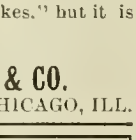


Hawkeye Incubator Co. Dept. 17 Newton, Ia.

Please mention Bee Journal when writing.

GENERAL ITEMS

Report for 1901.

I commenced last spring with nineteen colonies of bees, secured 1715 pounds of extracted honey, and a quantity of comb honey. It is all sold, and I received over $165.00 for it.

I have twenty-eight colonies packed for winter. I use the 8-frame dovetailed hive.

HERBERT FREAS.

Lincoln Co., Ont., Canada, Jan. 15.

Bee-Business Almost a Failure.

The last two years the bee-business has been almost an entire failure, some having lost all their bees. My bees went into winter quarters in bad shape, but I hope now to get the most of them through.

Bees did not work on the alfalfa last summer, as it was so very dry that it did not even bloom very much excepting on bottom land.

I hope we will have a good honey-flow the coming year.

I have been a constant reader of the American Bee Journal for years, and could hardly get along without it. H. H. MCGUGIN.

Jewel Co., Kans., Jan. 13.

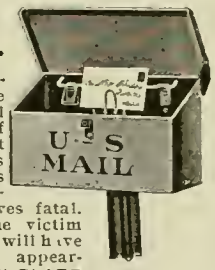
Buckwheat and Locust—The Jouncer

I have been waiting before reporting on a piece of buckwheat planted in 1900, to see what that planted May 22, 1901, would do. It came into bloom July 9, and bees were getting both pollen and honey from it in great shape. Mustard, clover, motherwort, catnip and all of our honey-plants were in full bloom, and it looked to me as if a great many writers were mistaken in what they have said in regard to buckwheat yielding no nectar when planted early.

We usually have nothing for bees to work on from about July 20 to August 15, and

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

Stone Bruise.



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51D8t Mention the American Bee Journal.

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if a crop of buckwheat can be made to fill the shortage I am satisfied it is a paying investment.

Compare with the "A B C of Bee Culture," page 50, Doolittle's note 44; also note page 197, in regard to locust.

In this locality there are three varieties, common, honey, and one that I do not know by what name it is designated. I have observed closely for three years, and following is the result: Two years strong colonies gave some surplus, and the other year it sounded like a swarm in every tree, but no surplus honey.

The jouncer solves one of my most difficult problems, and on plain sections it gives me as good results as Mr. Davenport gets on extracting supers. Many thanks to him and the American Bee Journal. L. C. SALSBURY.

Bradford Co., Pa.

Finally Made the Bees Pay.

During the past season I was able, through the advice and instruction received through the columns of the American Bee Journal, to make the bees pay for the first time in my experience.

I started with 3 colonies last spring and have 5 that are very heavy now, and 1 that is pretty light.

I placed them in an unused bedroom over a cold room in the south-east corner of the house. They seemed all right when I looked in the first of the week, so I did not disturb them any more than I was obliged to, in order to get some books needed. HOWARD H. HOUSE.

Oneida Co., N. Y., Jan 20.

Good Yield—Honey-Dew for Stores.

I saw an item recently that spoke of bees supporting a hired man in the hayfield at $1.75 per day. I had a prime swarm of black bees which came out June 7, 1901, and on June 8 I put on sections enough to hold 64 pounds of honey, and in just 9 days from the day I put them on I looked at them and found that every one of them was ready to take off, and so I took them away completed and in good shape. I think they did fairly well.

I have kept bees for a number of years and have had success with them, for this reason. I never lost a colony in winter, indoors or outdoors, so I think I have been successful. This winter I expect to lose them all, on account of the honey-dew that they have to winter on.

A. H. CHESLEY.

Carroll Co., N. H., Jan. 20.

Report of 2 Acres of Buckwheat.

It was planted May 24, 1900, and bloomed July 10. Nectar first showed in the hives to any extent July 23.

Brood-rearing was certainly stimulated up to July 28. They at no time worked on blossoms after 11 a. m.; on that date they worked until 1 p. m.

The buckwheat on July 28 was loaded quite well.

August 6 the bees worked on it every day, but at no time after 11 a. m., and it is now about through blooming. No honey showed in the supers but considerable in the hives.

On August 6, there were 10 acres of buckwheat in full bloom about one-half mile from here and bees were putting honey from there into the supers. This seems to me to prove that it pays to plant buckwheat for bees. Fortunately, I was able to harvest quite a nice crop of the grain, but this is not the case usually, as rain fell several times very opportunely, and a few days more of the hot, dry weather would have entirely spoiled it.

L. C. SALSBURY.

Bradford Co., Pa.

"The Bee in Law."

On pages 11 and 12, I noticed the finding of R. D. Fisher, i. e., "The Bee in Law." That finding appears strange, indeed. It would seem to me that if a person obtained a license to cut down a tree and take either tree or bees from the owner of the land, that should be sufficient, as against a third party. Why, a farmer might as well sell a fat steer out at pasture to a third party, as the owner of the land to sell a bee-tree to a third party. You do not give just what the statute in New York State provides, but I gather from what you have boiled down in the matter that Mr. Fisher, or anybody in authority there, can rule just as they think fit, according to their own personal ideas.

The law in the Province of Ontario is laid down by act of Parliament, and the judge would have to base his findings accordingly. Bees living in a state of freedom in Ontario *shall* be the property of the person discovering them whether he is or is not the proprietor of the land on which they have established themselves. But in event of his not being the owner of the land he would be obliged to compensate the owner for all or any damage he would cause the owner of the land in removing said bees. W. J. BROWN.

Ontario, Canada.

[So long as law-makers are fallible beings there is a likelihood of laws more or less fallible. The most that the bee-papers can do is to try to tell what the laws are.—EDITOR.]

Bees Wintering Nicely.

My 240 colonies are wintering nicely, and are very rich in stores. We extracted 7 barrels—about 4,000 pounds—last year to 1½ barrels the previous year. Last year was exceedingly dry, probably the dryest I have ever seen in my 40 years' residence here. EMIL BAXTER.

Hancock Co., Ill., Jan. 20.

Wintering Well.

The bees appear to be doing very well in the cellar, where they were put Dec. 10.

It was so very dry last fall that I don't expect much white clover the coming summer, as last year's clover burned out.

L. HIGHBARGER.

Ogle Co., Ill., Jan. 20.

Treating Foul and Black Brood.

I will tell how we treated foul and black brood the past season with the best results. We had about 50 colonies which had the disease in all stages, and, after thinking the matter over, decided to try a way of our own.

The first thing was to get them strong by uniting and otherwise before the honey-flow was on; then when the honey was coming in fast we took an old hive where the bees had died of foul brood and cut out all of the combs, scraped the frames as well as we could, then put in 2-inch starters for the brood-nest.

Next, going to the hive we wished to treat, we first smoked, then lightly jarred the bees so as to get them to load, as we think it best that all bees carry as much honey to the new hive as possible. We then moved the old hive away a few feet, front or back, set the new hive with the starters and a super of drawn sections in its place, then shake the bees out before it and let them run in, being careful that none of the young bees go into another hive, and the work is done.

The reason for it being a success, is, the loaded bees at once store above all foul honey in drawn combs, and commence to clean house, and, as there is no comb below, if there is any honey on the hive or frames it also goes above. I ommitted to say there should be an excluder between sections and brood-nest.

Now if the flow should stop before the super is filled and capped, it should come off, otherwise we have a good super of honey and the bees never stop work. Out of 50 colonies so treated the disease did not appear again.

This year (1901) has not been a good one for bee-keepers around here, but we are hoping 1902 will be better. W. J. STEWART.

Utah Co., Utah.

A Swarming Experience.

During the season of 1900 I secured 1400 pounds of honey from 14 colonies, spring count, and 19 swarms, several of which I sold during the season. Then I expected great things for the honey season of 1901, but early in the spring wet weather set in and continued until about July 1, at which time, instead of having my honey crop taken and sold as usual, my bees were just about ready to go to work in the supers, and in this country it was said of old that bees could not build comb after July 10, and as I have always found it necessary to leave plenty of honey in the hive after this time, on which the bees might winter, my feelings may be imagined when after two to three fair days my bees began to swarm, which was a large one, and put it in place of the parent colony. (It was hived on starters of foundation only). I then went to the parent hive, lifted off the extracting super, placed it with bees and empty combs on the newly-hived swarm with a queen-excluder between. Well, it soon looked as if every bee in the apiary had become deranged, for there would be two or three swarms in the air at one time. I hived some, dumped some on the ground in front of the hives from which they came,

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and some I let go. So after a few days they settled down to business, and I was soon as much surprised at the way they carried honey and built comb as I was at the way they had conducted themselves in their stampede.

But that first swarm which I treated as I said before, gathered at least twice the amount of honey gathered by any other colony.

After July 3, I averaged about 40 pounds, of as nice honey per colony as I ever saw. It was basswood, the season having been such that it did not bloom as early as usual.

I am putting forth every effort to improve my bees by selection, have been rearing drones from select queens, as well as queens from select mothers, and had fair success the past season in mating my queens with these drones.

R. L. DAVIS.

Tazewell Co., Va., Dec. 9.

Bee-Keeping in Southern Ohio.

I will try to give the readers of the American Bee Journal a short description of Southern Ohio, mostly applicable to Pike, Highland and Adams Counties. We have a great deal of land here, in fact it is piled up in great, big piles, some of the hills being from 300 to 450 feet high, and extending many times for 25 or 30 miles. The valleys are usually not over a mile and a half wide, and many are only a few hundred feet wide. The valleys are rich, being fair grazing and farming land. The hills are heavily timbered, and are the finest fruit land in the State. The hill land is very rocky, and fairly productive on the north side, while the south side is mainly a barren, slatey soil, covered by scrub-oaks and huckleberry bushes.

In the forest trees the bees find a fine pasture. First the red maple, usually about March 20, and three varieties of willows, red-bud, poplar, dogwood and sassafras coming in just after fruit-bloom. In May, and sometimes a little sooner, we get wild strawberry bloom, raspberry and blackberry, of which we have hundreds of acres, especially of the blackberry; sugar-maple, chestnut, sourwood, basswood and buckeye. Add to that white clover, motherwort, catnip, hoarhound, huttonbush, wild mustard, milkweed, ironweed, smartweed, water-lily, golden-rod and asters, and you have a partial list of the honey-plants. I could name probably 50 more and leave out all the wild flowers, of which there is a great number. Yet you could ride for miles and not see even a box-hive. The man that has 20 colonies in any kind of old boxes is considered *a great bee-man*.

My 18 colonies have a range of miles of hills and dales. Here the Italian bee rules. It came about in this way: Some 15 years ago a Mr. Legg engaged in apiculture to the extent of 100 colonies; he became interested in politics, was elected county treasurer, defaulted the county some $17,000, and later took up his residence at Columbus, Ohio, for six years. The bees being neglected they sent out many swarms which went to the woods, and did for the black bees what politics had done for their keeper. Motto: Let good enough alone. Now it would be impossible to find a colony of black bees, and you seldom see a single black bee. Bee-trees have as fine Italian bees as you wish to see.

Land is cheap in the hills—can be bought for a song, almost—$3 to $10 per acre; while land in the valleys would cost from $40 to $60 per acre. We would be glad to welcome some good, reliable, up-to-date bee-man, for a fellow gets awfully lonesome. If a colony dies from any cause, even queenlessness, and you ask any box-hive, old-fashioned bee-man what ailed them, he would say that worms got in the *shep*, the bees took the cholera, and froze to death. They never read a bee-paper, saying that it does not pay to keep more than enough for seed. But they say they know how to catch a sucker.

One of those fellows approached me one day in the spring of 1900, and told me that he had two good colonies of bees for sale cheap. I told him I knew nothing about bees, and could do nothing with them. He said he could tell me about them and he would teach me. I told him I might trade him a watch (it was plated and the plating was about all off). Well, we went to look at the bees. I took shelter behind an apple-tree, and he walked bravely up. It was a nice, spring day, just right for bees to get a hustle on themselves. One colony was sending out several bees, and the other had one or two crawling around the entrance. I remarked that they were weak. "No, those fellows are rich; they do not have to work unless they feel like it." Well, that looked a little bit reasonable, so I bit.

The fellow helped me carry them that night to my vineyard, and I went to bed that night dreaming of tons of honey. I was satisfied that I had two extreme classes of

honey-bees, viz.: one aristocratic, New York 400—they were so rich they only worked when they pleased; the other colony poor, and not so far up socially, and had to work like the rest of us clodhoppers.

In a few days my "millionaires" began to act as if they were suffering from sore feet; and as the great bee-man had told me of the great store of luxuries they owned, I naturally supposed they had the *gout*. In a few days they had gone the way of all the world.

Well, I had caught the germ of bee-fever. Later I bought four good colonies in movable-frame hives, and a man promised to loan me a bee-book if I would return it. I went four miles after it and it proved to be a bee-supply catalogue for 1891. I returned the "book" and it was snugly stored away for future use.

Pike Co., Ohio, Jan. 14. J. M. WEST.

Carbolineum Paint—A Warning.

A word of warning as to Carbolineum may save some sad experience. For outside paint it is altogether out of the question, for the stuff will never dry, and all bees that touch it while the sun shines on it must surely die.

For bottom-boards, paint the under side, and do it a long time before they are to be used. Reversible bottoms, of course, cannot be painted with it.

Three years ago I painted some hen-roosts with it on the under side, and it killed all the lice in the entire hen-house. It also filled the building with such horrid fumes that the chickens' lives were endangered, and they had to remain outdoors all day. The vapor that arose from the stuff caused the skin on my face to peel, and almost blinded me for two days. The nasty smell is still on the wood after three years.

But still, carbolineum may have its uses in the apiary; for instance, it may be effective in destroying the bee-moth. The way to do it is to paint a hive-bottom with it, and place over it a hive-body with infected combs inside, and cover with glass; then place in the hot sun, and fumes that rise ought to burn the faces clean off of the old worms.

If carbolineum is handled in the sunshine without wearing a face-mask, the handler will certainly have reason to regret it.

Dupage Co., Ill. T. FLUEGGE.

Bees and Ants.

Many of our bee-keepers do not seem to realize the importance of the danger that ants are to their bees. I note what our mutual friend, Mr. Hasty, says in reply to Mr. Working (see page 9). Yes, they will not only grapple with and destroy the queen, but if they are present in immense numbers they will destroy every living bee in the hive; and they will also carry away the honey, leaving the combs as light and dry as if they were robbed by wasps or other bees.

I remember visiting an apiary of over 60 colonies that were badly troubled with small black-brown ants about three-sixteenths of an inch long; they destroyed several colonies, among them being a colony in a 10-frame, 3-story Langstroth hive containing 12 to 15 frames of brood, and over 100 pounds of honey, and from 90 to 100 thousand bees, and the ants invaded the hives in such vast numbers that they destroyed the bees and completely cleaned out the hive in 21 days.

Mr. Hasty says the number of species of ants is immense, which is true. There are white, black, brown and red ants, and in size they range from about one-sixteenth to seven-eighths of an inch. As far as their destructive effects are concerned their size does not count like their numbers; thus a quart of small ants are more destructive than a gallon of large ones; besides, it is much easier to find and destroy large ones than the small ones.

Mr. Hasty also says that bees show anger when multitudes of little ants, too small to grapple with, get scattered among them. He could have said with equal truth that the bees are in a terror of fright when the hive is full of small ants.

I have opened hives where there were many times more ants than bees, and the bees in their frantic efforts to get away from the ants that followed them would rush against the others. I saw large numbers of ants grapple the bees by the legs or body, and, as they scarcely let go when they fasten themselves on anything, the bees rise and fly off with the ants; and as they seldom, if ever, live to return, and as it often happens that the ants are much more numerous than the bees, a small colony of bees is soon cleaned out, and the ants have a picnic carrying off the honey.

After about 15 years of experience with this ant-pest, I find that when a supply of water is available so that the soil can be kept continually wet, the eggs will rot and they can

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thus be killed out. Great quantities can be destroyed with coal-oil, fire, boiling water, or with pails of sweetened water or with poisoned honey or sugar. When it is found impossible to keep them down by the above methods, the bees can be protected by using three small trestles, about 7 feet apart. Take two long 2x4 scantlings, brace them, then place as many hives as the stand will hold; then paint a two-inch ring around the trestle legs with a mixture of two-thirds of lard to one-third of coal-tar. If it dries too quickly add a little more lard. The ants will not go over it if it is kept soft and sticky; apply it from about the first of April until the middle of June, as the ants will not be troublesome after that date, as a rule.

The honey and irrigating water prospects for the coming season appear to be bright in some portions of the State; but in many parts of the State at present the indications are not flattering. There is very little snow in the hills; however, it is not too late for snow.

E. S. LOVESY.

Utah Co., Utah, Jan. 13.

CONVENTION NOTICES.

Utah.—The Utah State Bee-Keepers' Association will hold its annual convention in the City and County Building, Salt Lake City, April 5, 1902, at 10 a.m. This promises to be an interesting convention. All are invited. It is desired to form an exchange for the protection and benefit of our bee-keepers. Come and aid a good cause. It is expected that every county will be represented. J. B. FAGG, Sec.

E. S. LOVESY, Pres.

South Dakota.—The annual meeting of the South Dakota Bee-Keepers' Association will be held at the City Hall in Yankton, on Wednesday, Feb. 19, 1902. The committee is making special effort to make this meeting of interest to all who are any way connected with bees or fruit. Let all who are interested in bees come and bring a friend with them.

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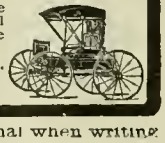

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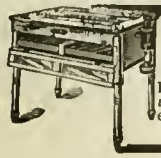

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The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.

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GEORGE W. YORK & CO.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Feb. 7.—Hope of February bringing a good demand for honey is so far disappointing. The weather is extremely cold, yet this should not curtail the demand, for honey is a cold-weather luxury, and to most people more inviting when cold than when it is hot. Perhaps one of the causes (for there are many) was the holding back of the crop by producers in the early autumn, on the supposition that the yield was light taking the country as a whole; the result was consumers reasoned that it was going to be scarce and substituted other things in lieu thereof. Comb is freely offered with prices weak at 14@15c for choice to fancy; 13@14c for No. 1; 11@12c for amber and buckwheat. Extracted slow at former prices. Beeswax strong at 29c. R. A. BURNETT & Co.

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C. H. W. WEBER.

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Our market continues somewhat dull in the demand for honey, while stocks are ample for the balance of the season, unless there should be a much larger demand than we at this moment anticipate. BLAKE, SCOTT & LEE.

NEW YORK, Feb. 8.—There has been very little movement of late in comb honey, and while there is no buckwheat on the market to amount to anything, there is sufficient quantity of the different grades of white honey. The demand having been slow of late, prices have bad a downward tendency and are likely to remain so during the spring.

We quote: Fancy white, 14c, and exceptionally fine stock at perhaps 15c; No. 1 white at 13c; amber at 11@12c. Extracted remains dull at unchanged prices. Arrivals of late are quite plentiful of all the different grades. Beeswax firm at 28@28½c. HILDRETH & SEGELKEN.

SAN FRANCISCO, Jan. 22.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Market continues quiet, but is tolerably firm, particularly for choice to select. Spot stocks are of rather small volume, and there are no evidences of much being left in the interior. There is some probability of prices hardening slightly during the next few months, particularly if the spring trade proves to be of good average proportions.

WANTED 150 COLONIES OF BEES in March or April. State kind of hive and general conditions; also lowest cash price. Address, G. E. P.,

Care American Bee Journal,

6Atf 144 & 146 Erie Street, CHICAGO, ILL.

Notice.—On another page of this issue of our paper will be found the advertisement of the Watkins Medical Company, of Winona, Minn. These people are the sole owners and manufacturers of the famous Watkins Remedies. These remedies are not new and untried preparations, for they have been upon the market and in daily use over a very large section of the country for the past 34 years. We do not doubt but that many of our readers are perfectly familiar with and are now using the Watkins Remedies. They have stood the most rigid test of all these years and are more popular with the people to day than ever before. This could not be true but for the fact that the remedies are made upon honor and sold on their merits. The responsibility of the Watkins Medical Company is entirely beyond question. Ask your banker, any reputable business man, or refer to Bradstreet and Dun's Commercial Reports. Write them for a free copy of their Home Doctor and Cook Book. This will serve to acquaint you with these people and gives at the same time valuable information, weather forecasts, cooking recipes, etc. Address the J. R. Watkins Medical Co., 10 Liberty St., Winona, Minn., and please mention this journal.

We have a Large Stock on hand and can ship promptly.

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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
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Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	4.00	7.75
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

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"FACTS."

Root's Catalog Now Ready

It is a fact that Root's Catalog for 1902, the 91st edition, contains information valuable to EVERY bee-keeper, whether he has one colony or a thousand colonies. The catalog is ready for mailing, and will be sent free to all applicants. If you will give us the names and addresses of 10 or more bee-keepers, we will send you in addition our 40-page semi monthly journal, GLEANINGS IN BEE-CULTURE, for 3 months free.

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Danz. Hive It is a 'Fact" that the DANZENBAKER HIVE for Comb Honey, is acknowledged by ALL who have given it a fair trial, the best hive for comb honey.

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Agencies It is a fact that Root's Goods are in demand everywhere. For this reason we have agencies all over the United States and upward of 25 foreign countries. A full list of agents sent on application.

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Facts About Bees "Facts About Bees," 7th edition, revised, is now ready. Full of information, and sent to any address for a 2 cent stamp or free if you mention this paper.

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MEDINA, OHIO, U. S. A.

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AGRICULTURAL COLLEGE

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., FEBRUARY 20, 1902.

FORTY-SECOND YEAR
No. 8.

WEEKLY

APIARY OF MR. A. FRASER, OF WOOD CO., WIS.—(See page 116.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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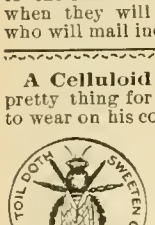
A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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SENT POSTPAID BY

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

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A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper.

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Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

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Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

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There is not much offering in this center from either first or second hands. The market is firm at the quotations, although business is of a light order. To purchase freely, higher prices than are warranted as quotations would very likely have to be paid.

CONVENTION NOTICE.

Utah.—The Utah State Bee-Keepers' Association will hold its annual convention in the City and County Building, Salt Lake City, April 5, 1902, at 10 a.m. This promises to be an interesting convention. All are invited. It is desired to form an exchange for the protection and benefit of our bee-keepers. Come and aid a good cause. It is expected that every county will be represented. J. B. FAGG, Sec.

E. S. LOVESY, Pres.

Went Like Hotcakes

A Nebraska customer when ordering a new supply of our fine Alfalfa honey in 60-pound cans, said: "The last I got went like hotcakes." So it does.

More people might do well if they would order this honey, or basswood, and sell it. It not only goes off "like hotcakes," but it is mighty good on hot cakes.

See honey-offers on page 98.

GEORGE W. YORK & CO.

144 & 146 Erie Street, - CHICAGO, ILL.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., FEBRUARY 20, 1902. No. 8.

Editorial.

"**The Truth About Honey**" was refused by the Chicago Tribune, as we reported recently in these columns. But in its issue of Feb. 4 we find the followiug, being a contribution from a California correspondent:

Honey-Comb Is Not Imitated.

WAX FOUNDATION FOR THE CELLS IS THE ONLY ASSISTANCE MAN GIVES THE BEES.

California's honey crop for 1901 was 2,208,000 pounds. This was gathered by about one-half the usual number of bees and from small, favored localities. With the number of bees now in the State, should the conditions be favorable, the output this year will be in excess of 5,000,000 pouuds. In consequence, we are interested in all that advances or injures the industry. The Tribune printed an interview in which it was said that artificial comb honey was now both made and sold. This statement is running like a prairie fire, and, unless its correction is as emphatic and public as the assertion, will work great injury to the honey-producer.

Bee-keepers use what is known as "comb foundation." This is a thin sheet of pure wax, with the impressions of the base of the cells impressed on the same. This is used to direct the course of the bees in comb-building. Beyond this "base" man has not been able to go. There is not to-day, and never has been, a pound of complete comb honey made by man or machinery. I will give $1,000 for a pound so manufactured.

E. H. SCHAEFFLE.

This is good as far as it goes, but how much better it would have been had the editor of The Tribune written his own correction, and promptly admitted that he published an interview that was a great damage to an honorable industry, and that he regretted it exceedingly, hastened to make the correction as prominent as was the misrepresentatiou, etc. But even editors are human, as we know from experience, and perhaps too much should not be expected of them—especially of the editors of some partisan daily newspapers who are so accustomed to painting things in wrong colors that they are practically color-blind when it comes to the question of right and wrong. And to admit that they had been unjust to any one or any thing—why, that would be unthinkable to them!

But let us be thankful that there are many editors of daily papers that are all right.

Do Robber-Bees Sting?—It is well known that sometimes robbing goes on quietly with little appearance of anything but friendly feeling between the robbing and robbed, and it is equally true that sometimes a very lively struggle is seen. In that struggle, when there is a clinch between one of the robbers and one of the defenders, it is plain to be seen that the defender is not joking, the number of dead and dying bees often bearing evidence of the desperate earnestness of the struggle; but it is not so easy to say whether in a warfare of that kind the two bees are each trying to sting. So good an authority as Rauschenfels says they are. Perhaps he is right. Yet it is certainly true that when a robber-bee is grabbed by the leg or wing, there is never any appearance of resistance, only an effort to escape. Is it not possible that when two bees have a closer grip, that still the only effort of the robber is to get away? The movements are so lively, the bees tumbling and rolling in all directions to such a degree that it is not easy to see what is going on.

If one had a case of robbing in which the robbers were blacks at work upon an Italian colony, or vice versa, then something might be decided in the matter. For if in the heap of slain none but bees showing the color of the robbers were to be found, then it might be concluded that robbers do not sting; whereas, if both kinds were among the slain it would be proof that the efforts of the apprehended robbers were something more than to get away. Prehaps some one can report a decisive case.

Honey-Recipes.—The following, taken from the British Bee Journal, are translated from Le Rucher Belge:

DIGESTIVE LOZENGES can be made by melting in a bain-marie 3 oz. of pure gelatine in 3 oz. of water; then add carefully, while stirring thoroughly, ½ lb. of honey previously warmed. When well incorporated add a little cochineal and five or six drops to every 3 oz. of English essence of peppermint. This is then run into lozenge moulds or thinly on a plate, dried in the cool, cut into shapes, and finished drying for eight hours in a dry place.

A HEALING BALSAM, really valuable in case of wounds or injuries to the skin, is prepared in the same way in a bain-maric:—Take of wax from the cell cappings 1 oz.; of fresh propolis, 2 oz.; of the finest honey, 7 oz. After all is well mixed pass through a close cloth, and press out well; replace in the bain-marie; add a little cochineal and a few drops of essence of lavender; then beat the mixture well with a fork, and fill into small pots, which fasten down closely.

Stimulative Feeding is spoken of more frequently in European journals than in this country, and is perhaps practiced more in Europe than here, yet it is spoken of there as a two-edged sword, and one with which it is not wise for beginners to meddle. The Rocky Mountain Bee Journal having designated as a "fossil" a man who should say that "spring feeding for stimulation of brood rearing was not only unprofitable, but detrimental to the bees," the editor of The American Bee-Keeper, while agreeing that, "if discreetly done, stimulative feeding in the spring repays the cost and trouble handsomely," expresses himself somewhat emphatically in the following words:

We believe ourself that in other then expert hands it is a most dangerous procedure, and should not be recommended to the inexperienced manipulator. There is no part of apiary work in which the skill of a master hand becomes more imperative than in the practice of stimulative feeding in the spring.

It may as well be clearly understood that whatever good or bad results there may be in the hands of those of long experience, stimulative feeding is a very safe thing for beginners to let entirely alone.

Stingless Bees of Mexico.—We lately received the following about the little stingless bees that are found in Old Mexico:

EDITOR AMERICAN BEE JOURNAL:—

By this mail we send three pieces of honey-comb, and a few very small bees. These are the smallest bees we have ever seen; they are very plentiful here. There are other kinds of stingless bees here, one kind nearly as large as the Italian, and very nicely marked, but the bands are of a very dark yellow, and the body of a greyish color. They are very queer, and they usually build in a log, with an opening just large enough for one bee to go in or out at a time; the door-keeper pops back out of the way when another bee wishes to go in or out.

We have just imported some Italian bees from Texas, and have been expecting to see them "go for" the stingless bees we have, but so far they have not bothered them, for the reason, I suspect, that our honey-flow has been on every since they came.

We have no German or Italian bees within 300 miles, so far as we know, so this ought to be a pretty good place to rear queens. Mr. Doolittle, no doubt, would be in his glory here rearing queens.

We received our bees about two months ago, and they are building up finely; this morning I saw a few drones, and plenty of drone-brood. The tops of the combs are getting white, which, according to some of the bee-papers I have been reading, is a sign that honey is coming in. We got the bees to pollenize our coffee-trees, as well as cocoa, vannilla, and other fruit-trees.

Our chief work down here is the planting of rubber and coffee, with side crops of corn and beans. We have produced between 8,000 and 10,000 bushels of corn as a side crop, and hope to save several hundred bags of beans within the next 60 days. The food of the Indians is beans and corn, so we feed them with home-grown food.

However, I started to tell you about the little bees, or rather to ask you to name the little things, as you will see they are smaller than the smallest house-flies, and just as harmless. What are they called? To what class of bee do they belong?

We have an ant here, too, that gathers honey, and if you care to have a sample I will

be glad to send you some by friends who are coming here in 10 or 15 days, and will soon return to the "Windy City."

Yours truly,
MEXICAN MUTUAL PLANTERS COMPANY.

Yes, we would be pleased to see the honey-gathering ant.

We wish to thank you for the samples of comb and small, stingless bees. Such have often been mentioned in the American Bee Journal in the years gone by. We will forward the sample to Prof. Cook, and ask him to report on them. The cells seem to have no bottoms, as the brood runs clear through the comb, capped at both ends. Queer, isn't it? And the bees—well, they are about as large as two or three ordinary pin-heads with little wings? They are very interesting, indeed.

Parsley Honey.—The following clipping has been received at this office:

The honey that bees gather from parsley is likely to make man feel very ill indeed. Probably that honey does not disagree with the collector, or it may occasionally be gathered and placed with the rest by mistake. There is just the chance that it is done for purposes of revenge by one member of the community who considers himself aggrieved and vents his spite on his fellows.

There are not many places in which parsley is raised in large quantity, and still fewer are the places where it is allowed to blossom in sufficient quantity to allow an appreciable quantity of honey to be gathered from it. So one is led to wonder how it was ever found out that parsley honey was such an objectionable thing. "There is just the chance" that the whole thing is as much in the realm of romance as the idea in the last sentence of the clipping seems to be.

Weekly Budget.

THE WISCONSIN CONVENTION.—It has been our privilege as well as pleasure to attend three or four meetings of the Wisconsin Bee-Keepers' Association. Bee-keepers are pretty much alike the country over, we believe. Especially the ones that attend conventions. They are a jolly set of people. And clean, too—with but very few exceptions. We do not remember hearing an ungentlemanly word during the two days' sessions, either outside or inside the convention room. Take bee-keepers as a class, and we believe they average higher in almost every way than do those in many other pursuits.

But we didn't start out to tell how wonderfully good all bee-keepers are. Not at all, for we have discovered several specimens that are otherwise. But the black sheep will show up occasionally. We'll have to get Mr. Hutchinson to ask Stock-Breeder Simpson to explain how it happened. Perhaps he can account for it.

Pres. France is a good hustler. He knows Wisconsin and its bee-keepers to a dot. And they know him, and like him. And well they may. He is simply tireless in his devotion to Wisconsin bee-keeping. He succeeds, too. He gets what he goes after. And sometimes he gets what he doesn't go after—the presidency of the Association, for instance.

Then there is Vice-President Hoffman. He is a big help in a convention. Keeps the discussions moving. To have a Wisconsin convention without his genial presence would seem strange, indeed. So it would if Messrs. Wilcox, Pierce, Gross and others remained at home.

And Miss Pickard, the secretary. But, hold on; an old married man like the writer perhaps would better tread rather lightly here. Suppose we simply say that she is all right in every way, and just let it go at that. Now, certainly, not many could find much fault with that, could they? But we will say that she is a thoroughly practical "bee-keeperess"—"und vergessen sie das nicht."

Harry Lathrop, the treasurer, is almost too well known to need any introduction. For years he has been a contributor on bees to the Wisconsin Agriculturist. He's a railroad station agent, too. That seems to be a pretty good business to combine with bee-keeping—at least in his case. "Harry" produces very nice comb honey, and is a good bee-keeper, of course.

Oh, yes, there is at least one really and truly honest bee-keeper in Madison. Now, don't go and say we said there is only one honest bee-keeper there. That wouldn't be true. But, listen to this: As far back as 1878 there was a Wisconsin State Bee-Keepers' Association. And they had "money to burn," it seems. At any rate, when the association disbanded there was $7.00 remaining in the treasury. And the selfsame $7.00—yes, the very same bills—was turned over to Pres. France at the recent meeting. Think of hanging on to $7.00 for a quarter of a century, and then turning it over to the proper authorities! Wonder why it wasn't handed in long ago? And yet the convention didn't adjourn at once, and all go out and "blow it in" in some "jollificating" and questionable way. No, sir, bee-keepers at conventions are all straight. At least they are in Wisconsin. And the samples we have seen as far away as California seem to be ditto. And almost without a single individual exception this is true of every bee-keepers' convention we have ever attended.

Pres. France says the majority of the bee-keepers are working toward the production of extracted honey. Less swarming, less work, and more honey and money. But the best producers are death on the chaps that extract unripe honey to put on the market. And they ought to be. The bee-keeper that puts unripe honey on the market ought to be—well, he ought to be forced to earn an honest living in some way, and not rob the consumer and also damage the market for good honey.

There were some good papers read by Mr. Hoffman, Miss Pickard, Mr. Fox and C. H. Pierce. We will publish them later. It is surprising how much some people know about successful bee-keeping, but have to be pressed or squeezed in order to get the information out of them. At the convention is where they can sometimes be compelled to "let out." So it often happens that the quietest member could, if he only would, give the most and best instruction to the rest of the crowd.

Prehaps we'd better leave the rest for the secretary to tell. But the trouble is, she's inclined to be rather backward in coming forward with a full report of the proceedings. We just believe she could write out a very complete report of all that was said and done. But will she? We'll await her answer.

MISS S. E. WOODCOCK, of Cook Co., Ill., when renewing her subscription for another year in advance, wrote thus appreciatively of the American Bee Journal: "I find it both instructive and entertaining, and enjoy it and my bees immensely."

HON. EUGENE SECOR, now a member of the Iowa Legislature, in session at Des Moines, has introduced a bill on the subject of pure food. This is his first experience in Iowa's General Assembly, and he says that he finds "the session so far very pleasant, with plenty of work."

THE APIARY OF A. FRASER is shown on the first page this week. The following accompanied the photograph:

I may say in connection with the picture I sent, that I have been keeping bees 10 years, and am satisfied with the business. Last year I had a trifle better than half a crop. I would like to get some of those big crops that I read about people getting in Illinois, Nebraska, etc. I do not mean the Western country.

I started with one colony and have had varying success. I have 151 colonies in the cellar, which is 20 less than the number I put away last year.

I think the American Bee Journal is all right. A. FRAZER.

MR. R. A. BURNETT, of R. A. Burnett & Co., took a trip to the East recently, and on Feb. 7 wrote us:

"My trip in the East was very agreeable. I visited the honey-dealers in Philadelphia, New York, and Buffalo, where they seem to have stock enough to carry them along, if not some to spare."

We understand that there is quite a good deal of honey yet in the country—a number of carloads of extracted. Seems to us some tried to have bee-keepers believe, last fall, that the crop of 1901 was very short, and advised holding for higher prices. We still think our advice was all right—to sell if as good prices as those of 1900 could be secured.

MR. WM. A. SELSER, of Philadelphia, wrote as follows, Feb. 6:

I expect to leave this week for a tour of Texas, Arizona and California in the interest of the pure-food law now before Congress from a chemical, scientific standpoint in order to get samples direct from the bees of all flows of nectar that produce a dextrose action with a levulose reaction, that makes some adulterated honey hard to prove before a jury, when the said honey has been adulterated by the packers with inverted sucrose. I think when I return I will be able to prove adulteration sufficient to any jury, no matter how much it has been doctored chemically. I hope to return in about two months.

My dear mother passed away last week, and our home is so very sad without her.

WM. A. SELSER.

Mr. Selser is a honey expert, and no one we know of is better prepared to undertake the work assigned him in the interest of pure honey.

We had the pleasure of meeting Mr. Selser's mother when attending the Philadelphia convention 2 or 3 years ago. She was indeed a lovely character, as are all good mothers. Our sympathy, as well as that of all who know Mr. Selser, goes out to him in his sorrow.

Convention Proceedings.

Report of the Colorado Bee-Keepers' Convention held in Denver, Nov. 18, 19 and 20, 1901.

BY D. W. WORKING, SEC'Y.

In making this report of the proceedings of the annual meeting of the Colorado State Bee-Keepers' Association, I assume that the readers of the American Bee Journal are not interested in many of the business matters that were of importance to the members at the time; also, that much of the discussion would be of interest to so few Journal readers that it is better to omit at least those parts that seem to have only a local application. So, while the Journal will have opportunity to publish all the papers, the editor will not be required to use his blue pencil to any great extent in marking out profitless matter.

The first paper of the session was on grading honey; and as it was written with the Colorado grading rules as a text, it seems well to print those rules in connection with the paper. They follow:

COMB HONEY RULES.

No. 1—Sections to be well filled and capped, honey white or slightly amber, comb white and not projecting beyond the wood, wood to be well cleaned; cases of separatored honey to *average* 21 pounds net per case of 24 sections, with a minimum weight of not less than 20 pounds for any single case; cases of half-separatored honey to *average* not less than 21¾ pounds net per case of 24 sections, with a minimum weight of 20¾ pounds for any single case; cases of unseparatored honey to *average* not less than 22½ pounds net per case of 24 sections, with a minimum weight of 21½ pounds for any single case.

No. 2—Includes all amber honey of a pronounced tinge, and all white and amber honey not included in No. 1; to be fairly well sealed, uncapped cells not to exceed fifty in number exclusive of the outside row, wood to be well cleaned; cases of separatored honey to *average* not less than 18 pounds net per case of 24 sections; cases of half-separatored honey to *average* not less than 19 pounds net per case of 24 sections; cases of unseparatored honey to *average* not less than 20 pounds net per case of 24 sections.

EXTRACTED HONEY RULES.

Extracted honey shall be classified as white and amber, shall weigh twelve pounds per gallon, shall be perfectly free from particles of wax, and shall always be marketed in new cans. All rendered honey, whether obtained by solar heat or otherwise, shall be classed as strained honey and not as extracted.

RECOMMENDATIONS.

It is recommended to sell all cull honey around home as much as possible; to grade only in daylight, near a window; to use the standard 4¼x4¼x1⅞ inch section and the 24-pound double-tier shipping-case, in order to have uniformity in loading cars; to stamp all cases of No. 1 honey with the owner's name above the handholes; to mark all cases of No. 2 honey with two dashes in the handholes at each end of the case, and with no other marks whatsoever; to use no second-hand cases for No. 1 and No. 2 honey; to pack all sections with paper below and above, and in double-tier cases to put a sheet of paper between the tiers; to store comb honey in a warm, dry place, protected from flies and dust; and to haul carefully, well protected from dust and rain.

Grading Honey.

The subject assigned me by your committee is so important that I had hoped it would be handled by older members with more practical experience. I shall speak of comb honey only.

The grading of comb honey is so closely related to the entire field of production that I shall not attempt to write a comprehensive article. Assuming that we have a first-class article in the house, the question is grading for color, beauty of build, and weight, so as to get the best returns for the product.

The first essential of grading I believe to be honesty of purpose; but an attempt to grade by any of the established rules has always brought me many difficulties. I believe we, on the Western Slope, have grades of amber honey that are not found on the east side, and the term "slightly amber" in the Colorado grading rules was a constant source of trouble to me in attempting to follow those rules. We have a decided amber grade of honey that always has clean white cappings, and all buyers have taken it as No. 1 honey when buying by weight; and yet I fear our rules would make it No. 2.

Up to the past season I have been making a case of honey of even color and allowing buyers to grade it; and after convincing them of honest, careful packing, I have been very much pleased with their liberality in grading cases. The past summer I tried to grade by the Colorado rules, and sold by the case for the first time, getting a substantial advance in price over former sales. And I will say that careful work in producing, care in cleaning and packing, with or without rules for No. 1 and No. 2, will bring good rewards for the labor expended. But I was especially impressed with the value of weighing cases, being able to guarantee weights and sell by the case. J. S. BRUCE.

F. L. Thompson—In regard to the uncertainty of including the amber comb honey of the Western Slope, those grading rules were worded for the very purpose of including the first part of their second flow in No. 1. The only honey of theirs which would be excluded from No. 1, according to its color, is that capped in the latter part of August and in September.

T. Lytle—Every man is his own grader. He should have absolute uniformity in any one case, and face it with fair and honorable samples of that case. I don't see how we can make rules that will be observed. He should use well-made shipping-cases, uniformly packed, and, above all, should have his comb honey well ripened. We had a tilt here last year on that last item; hence I wish to say that this year again I received 25 to 40 cents more for my cases than did my neighbors. Of course, there is a great deal in always selling in the same city for some period.

V. Devinny—What's the use of making rules for me? I have to call in my wife to decide the color of the combs, and many times she can not come. Many are color-blind, and do not wish to acknowledge it.

Summary of the Recent Discussions on Breeding.

In one of the recent articles on breeding the following quotation from Darwin was made:

"If selection consisted merely in separating some very distinct variety, and breeding from it, the principle would be so obvious as hardly to be worth notice; but its importance consists in the great effect produced by the accumulation in one direction, during successive generations, of differences absolutely inappreciable by the uneducated eye—differences which I for one have vainly attempted to appreciate. Not one man in a thousand has accuracy of eye and judgment sufficient to become an eminent breeder. If gifted with these qualities, and he studies his subject for years, and devotes his lifetime to it with indomitable perseverance, he will succeed, and may make great improvements; if he wants any of these qualities, he will assuredly fail."

Under these circumstances, some will doubtless inquire why the common bee-keeper should pay any attention to this subject at all. I answer, for the same reason that every person who buys hay should know what good hay is, and where to get it, though he may not be competent to raise it himself. If I have 150 colonies, and re-queen them with such superior stock that they average five pounds apiece more than they otherwise would, that is a gain of 750 pounds, and I have the same stock for next year. That result is worth a good deal of study and thought to secure, whether one selects his own queens or selects the man that sells him the queens. Our queen-rearers, moreover, depend largely on the bee-papers and conventions for suggestive ideas, and we should see to it that they get them by providing for the continuance of this discussion, though it may not affect our personal bee-work.

The starting-point of the present discussion on breeding in the Eastern papers was the following vigorous language by Mr. A. C. Miller, in the Bee-Keepers' Review for last March:

"The authors of our text-books, and the editors of our journals [*look out*], appear to be grievously ignorant of the laws of heredity, and of such authors as Darwin, Huxley, Hæckel, Spencer, and a host of other biological authors. Now, if our instructors are thus ignorant, what wonder that the rank and file do not advance in scientific queen-breeding? . . . Is it any wonder we do not get ahead? *Bah!* Scientific queen-breeding, forsooth; 'breeding queens,' 'golden breeders,' etc. Rot."

In the same article he also said: "Crossing tends to cause variation. The male varies more than the female. The male is the stronger element in begetting offspring. . . . Under such conditions it is little less than marvelous that we have made the progress which we have. As I view it, the only thing we have *done, actually accomplished*, is to cause the bee to vary. Variation, once started, seems to run riot unless fixed by scientific breeding-in. For example of this, look

at the pedigrees of noted trotting-horses."

In another article in Gleanings, he said: "The use of the terms 'choice bred,' 'straight golden breeders,' 'breeding-queens,' etc., implies that the person claiming to have such stock has produced it according to the well-recognized laws of breeding; that for many years the ancestry of this stock was pure and potent, and that these 'breeders' will produce offspring which, when properly mated, will maintain the same traits as their parents, with virtually no variation. Just how many queen-rearers care to affirm that for their stock?"

"'Thoroughbred' is not 'crossbred,' as any high-class stock-raiser will testify. Thorough breeding is cautious, careful, scientific in-breeding (do not confound this with in-and-in breeding); and when alien blood is introduced the result can never be foretold with certainty, the chances being toward atavism, the reverting to a previous type."

"It is high time we began to be scientific in our work. The haphazard, guess-at-it rule-o'-thumb ways have prevailed altogether too long. We shall injure ourselves, and be held accountable by those who follow us, if, knowing, we do not set about to overcome the evils."

These extracts indicate, in general, that those who *rear* queens are ignorant of matters of great importance in *breeding* queens. Let us now turn to the utterances of one of the foremost queen-*rearers*, and judge for ourselves whether he and others do all they might in selecting the ancestors of those queens which they are undoubtedly competent to rear. Mr. G. M. Doolittle says in the American Bee Journal:

"A yield of from 60 to 80 pounds of comb honey from red clover this year, with little or nothing 20 years ago, proves that I have not labored entirely in vain." In the American Bee-Keeper he sets forth his ideas thus: "We often hear bee-keepers say, 'If all the colonies had been as good as was No. 12 (No. 45, or some other number, as the case may be), I should have had several hundred, if not thousand, more pounds of honey than I secured this year.' Well, the question is, why not have all the colonies in the apiary as good as No. 12? We may not accomplish all we would like to in one year, but by superseding all the poorer queens in the apiary by those reared from No. 12, we certainly shall be advancing our apiary up the scale toward No. 12's yield. This is what I have been working for during the past 30 years, and it gives me pleasure to say that my colonies average very much more nearly alike in their yields, and the average yield per colony is much higher in proportion to the yield of nectar from the nectar-bearing flora, than it was when I commenced."

It is evident from this quotation that one who is an authority on queen-rearing recommends no other principle than that of breeding from the queen that did best in one particular year. He says nothing about the fact that a queen whose own colony is good may be weak in the power to transmit her excellence. That he has made progress by simply going on the assumption that "like produces like" is precisely what we should expect: for among the numerous best queens in a long period of years, some, at least, would have the power of transmitting their qualities with little loss. But the question is, Would he not have done better still to breed only from the potent queens than to breed from all the freaks without discrimination? We must conclude, therefore, that Mr. Miller's reference to "haphazard, rule-o'-thumb ways" of queen-rearers in selecting queens is justified, no matter how skillful they may be in the rearing itself.

Mr. Doolittle has, it is true, attempted to parry the criticism of his neglect to select according to the laws of breeding, by referring to the difficulty of mating with desired drones. In this very important matter of selecting queens whose progeny is uniform, that excuse has very little force, for *queens* can always be selected, even if we never could select drones. The conclusion is unavoidable that, with all the disadvantages connected with the choice of drones, our queen-rearers have not applied the science of breeding as they could have done.

But let us consider just what this matter of difficulty in selecting drones amounts to. On page 681 (1901) of the American Bee Journal Mr. Doolittle gives four plans for mating queens with desired drones. Of one of his plans—that of having his queen-mating nuclei in a locality isolated five miles or more from all other bees—he remarks: "The queens will, as a rule, be all mated with the desired drones." (Right here I wish to say that there are plenty of locations in Colorado and Utah that have the advantage of daily mails, and I have no doubt also all over the West and Southwest, where we can be absolutely sure there are no outside drones, for the reason that there is nothing in the surrounding country to support bees.) Of another plan, that of carrying the drone colony and the nuclei into the cellar until after four o'clock, or when other drones cease to fly, feeding them a little warm diluted sweet just before setting out, and setting them so as to face the western sun, he remarks: "Queens and drones will fly something as they usually do in the early afternoon, and the results will prove quite satisfactory." It seems, then, that when sufficient labor and care are taken, queens can be mated with drones from some particular queen; and in one of the other plans Mr. Doolittle hand-picks his drones, thus narrowing the choice still further. There appears to be no reason why this hand-picking process should not be applied to any such plan. Now, this attention and labor may not be commercially profitable on a large scale, when a man makes his bread and butter from queen-rearing. I do not know about that. But it is clear that we can select both sides in breeding bees to almost as great a degree as in breeding Jersey cattle or Leghorn chickens, the only differences being that the queen herself does not gather honey as a cow gives milk, and that we can judge somewhat more by the external appearance of a bull than we can at present from the appearance of a drone. But these are minor considerations, for ancestry—of which we may be equally sure in bees and cattle if we are willing to take the trouble—counts for more than individual traits as a guarantee that those traits will be transmitted. And when the desired object is the establishment of a new strain of stock a good deal of attention and labor are required in any case.

Mr. Adrian Getaz, in the American Bee Journal, lays much stress on the fact that Nature has been thousands of years developing hardiness and honey-gathering qualities, so it is reasonable to suppose the limit has been nearly reached, if not altogether. He says that those qualities in animals which we have succeeded in improving were completely undeveloped in nature. The trouble with this statement is that it isn't so. Even a Mexican wild hog has some value for meat; and when we consider milk-producing qualities, which are a pretty good parallel to honey-producing qualities ,we see how fallacious the idea is. Nature has been developing milk-producing qualities for millions of years, but nature never would have developed a strain of cows every one of which gives several times as much milk as the calf requires; nor does nature need to concern herself with producing bees that will gather much more honey than suffices for winter stores. Nature has done nothing whatever to test the full capacity of bees for gathering honey. So it is with hardiness. Both white and black men belong to the same species' but nature has not made the black capable of resisting pulmonary diseases, nor the white man capable of resisting malarial fevers. But if each had developed in the other's quarter of the globe, can we doubt the result, according to the law of the survival of the fittest? The fallacy of the idea consists in assuming that nature's tests are always the most complete possible. They are not; they are of all degrees.

We have, therefore, no sound reasons for believing that the breeding of bees, and their possible improvement, present such insuperable difficulties as to differentiate them from all other stock. But what about the science of breeding in general? Is it easy or hard, slow or fast? On this point Mr. C. P. Dadant says in the American Bee Journal: "Those who have persistently worked for years—for a lifetime—to secure the change desired in breeds of horses, pigs, cows, chickens, and, in fact, in the improvement of any domestic animals, or plants, or trees, those men know how little can be accomplished in a single man's life. . . . But nevertheless it would be wrong to discourage those who try, for they are certainly on the right road. . . . That we can succeed, sooner or later, is evident, if we consider what has been done in other lines."

Thus the question arises, Is it well for honey-producers to undertake a work of such magnitude, when they already have enough to do? Even the consideration of the strenuous requirements of rearing alone, without reference to breeding, has led Mr. J. H. Martin, in Gleanings, to recommend that a certain number of bee-keepers in a given locality turn their queen-rearing over to an expert in that line of work, each bee-keeper to contribute his best stock, and to agree to take a certain number of queens per annum, so that, having a large and definite number of queens to rear, the expert could rear them both cheaply and profitably. In this manner the queens used by the bee-keepers would be only one remove from the original; whereas, by our present method of rearing several generations of queens from one

breeding-queen to start with, and letting them mate with promiscuous drones, the best blood is too much diluted. Mrs. Barber, in the Rocky Mountain Bee Journal, emphatically endorses that plan, saying that she does not believe queen-breeders produce honey enough to give their bees a chance to show what they are; but if each bee-keeper furnished a few of the best queens of his whole apiary, that would be securing stock whose working capacity had been tested.

This plan is alluded to in the Review by Mr. F. B. Simpson, a breeder of trotting horses and Jersey cows, who has recently turned his attention to bees, and is writing a series of articles, not yet completed, for the Review, on the application of the principles of stock-breeding to bees. Mr. Simpson would prefer to follow a plan which would give the breeder a chance to establish a business and reputation for himself, and outlines the system he would follow. He would have over a hundred full colonies in addition to nuclei in his own apiary, and would contract with bee-keepers in his vicinity for the privilege of re-queening 500 additional colonies, the queens to remain his property, for the purpose of testing the honey-producing qualities of the bees of the queens furnished. He would start with six of the best queens procurable, as unrelated as possible, using each queen in turn as a drone-mother with the others as queen-mothers, thus getting thirty combinations of blood for testing. In ensuing years just enough new queens would be purchased to avoid in-breeding, to which he is opposed. This is but the gist of his plan, which should be read in full in the August Review to be understood.

On the subject of in-breeding, by the way, I find opposing views in the various articles. Mr. A. C. Miller, already quoted, says: "Variation once started seems to run riot unless fixed by scientific breeding-in;" and after pointing out that inbreeding intensifies characteristics, whether good or bad, his conclusion is—"Select properly, and it is your greatest helper; select poorly, and it is your greatest enemy."

Mr. H. L. Jeffrey, in Gleanings, says the worth of a blooded animal is in his ability to stamp the blood qualities, and refers to Mercury, the famous Jersey bull, for whose services $75 were offered, 23 of whose 32 ancestors were descended from one pair.

Mr. J. H. Gerbracht says in Gleanings: "There is not in existence to-day a single strain of unusual superiority of either cattle, hogs, or chickens, in which this principle has not been employed to secure a fixed type; and after this has been done, the fixed type can be maintained only by the most careful and scientific line-breeding. Crosses between different strains produce just the same unreliability and tendency to degeneration as crosses of distinct breeds do, except in the few cases in which, either by accident or the exercise of the most unusual good judgment, the two strains happen to 'nick' well. In cattle and swine breeding, the infusion of one-eighth new blood is considered enough to affect whatever ill effects close inbreeding may produce, the idea being to use the least possible amount to maintain the vigor and stamina, with as little disturbance of characteristics and type as possible; and the success of the breeder depends to a great extent on his ability to do this accurately. In poultry breeding, he says inbreeding and line-breeding are the only ways by which any fixity of type can be secured, and while the results are sometimes only good to look at, yet the best laying and most vigorous growing stock we have to-day is from this same line-breeding.

George Shiber, a breeder of carrier-pigeons, says in the American Bee Journal, "Most of the leading pigeon fliers inbreed; of course this can not be carried on indefinitely; new blood has to be added, gradually, say, a quarter, an eighth, or a sixteenth. It is an old saying, if you inbreed stock it would soon decline or weaken. It is undoubtedly true; but the breeder unmercifully culls his stock." He refers to a pigeon of his own, from stock bred as closely as possible, that flew 250 miles in seven hours over the Alleghany Mountains. He thinks that if, for illustration, two queens were chosen whose bees were long-tongued, but of different strains, one to be a drone-mother and the other a queen-mother, that but few of the resulting strain would be as good as their parents, judging by the experience of the breeders of other stock.

On the other hand, Mr. Simpson urges that nature never inbreeds unless compelled to; that, when it takes an animal several years to mature, there is an incentive to inbreeding, in securing uniformity without loss of time, and frequently inbreeding is resorted to just because no unrelated individuals are at hand; but neither of these reasons holds good with bees, for a vast number of generations can be reared in a short time, and an unlimited number of unrelated individuals of equal value procured; that while inbreeding of Jersey cattle has procured results in milk, they are very nervous, undersized, subject to disease and great mortality, and deficient in bringing forth living young; that the fact that Jerseys abound in renowned ancestors makes it impossible to say whether certain results were due to successful inbreeding or successful selection independent of inbreeding; that in trotting-horses the real cause of prepotency is skillful selection and not inbreeding, which is incidental and seldom close; that from personal observations he is led to believe that close inbreeding in trotting-horses is a total failure, with some exceptions of parents of especial vigor; that inbreeding is resorted to mainly to get some one or a few qualities, and this result is attained at the expense of other qualities; that nowadays the best racing horses are also the best all-round horses, because it has been found unwise to breed for speed alone; and he suggests that the best bee is the best all-round bee.

It is certainly an interesting and valuable fact that a practical breeder of trotting-horses and Jersey cattle declares against inbreeding, and prefers the difficulties of cross-breeding, by which it is very much harder to obtain a fixed type. But we have not yet been accurately informed whether the unsuccessful results from inbreeding are more numerous, or more prevalent, or of a worse character on the whole, than the unsuccessful results from outcrossing. Perhaps the exact information is unavailable. We should remember that it is not a mark of superior intelligence, but rather the contrary, for inexperienced persons invariably to take one side or the other in disputed questions. I suggest, therefore, that we keep an open mind on this subject, and reserve judgment. We wish to breed both for vigor of constitution and for permanency of type; and if we fail in either one, we have not succeeded in breeding.

The next question is, What principles, in addition to the well-known principle, "like produces like," should govern our selection of breeding stock, in order that we should be up-to-date in applying to bees all that we can supply of the knowledge gained by breeding other animals? Mr. Simpson has so far given us but one article on that subject, besides the one on inbreeding, and so, after summarizing that article and a few general principles laid down by Mr. Miller, I shall be obliged to leave the subject in an incomplete state, as the bee-papers have not yet finished it. Mr. Simpson takes up the popular fallacy of breeding from the queen whose bees produce the most honey. That trait by no means indicates that that queen has a special power of transmitting her own qualities, but rather the reverse, for the very fact that she is out of the ordinary indicates that she does not belong to a uniform strain, and that her daughters are not likely to be like her. The majority have for years bred from the least uniform, hoping to obtain uniformity, thus sacrificing blood for individuality. The proper queens to breed from are those which produce the highest proportion of daughters above the average. In fact the less the increase of average with which we are satisfied, the more certain are we to maintain it. He would prefer to select on a basis of five or ten pounds' increase over the parents' averages, if the colonies were kept as nearly as possible in like conditions, avoiding manipulation. A queen should pass through one winter and one honey crop before he would do any selecting. In buying the original queens, their previous honey-yield would cut no figure, and only their daughters' yields would be used as the basis in considering an increase of yield. In getting additional queens for new blood, he would prefer to get a dozen untested queens early enough to select a breeder from them after one winter and a honey-flow. His breeders should do their duty as queens in full-sized hives, so that he could from year to year compare their yield with other queens, and so that he could judge of their longevity under normal conditions.

Further, even if one breeding-queen produced daughters all of which gave a yield of 150 pounds each, he would not select one of them for a breeder to depend upon, because it would be too great an increase to be maintained. Daughters would be reared from one of them, but only as an experiment outside of his system, and none would be used in the system until they proved able to transmit hereditary uniformity. His breeders would themselves be good average queens, but not the best as queens, because he estimates the power to produce like offspring as very much higher than

mere individual excellence. His rule would be to breed from the most consistent representative of the best and most uniform blood.

The general principles which Mr. Miller lays down are as follows: "Domestication of animals causes variation, since variation is always brought about by a change of conditions. Food, shelter, freedom from fear and from the struggle to exist, are the changed conditions which follow domestication. The variation produced by them in sheep, hogs, fowls, and cattle, is very great; and by taking advantage of those variations, and selecting parents having certain characteristics, man has produced wonderful results. But the conditions of existence which surround the bee can not be materially changed; hence, we have a harder task to perform. Nevertheless, there is encouragement in the fact that the bee has begun to vary. This is the first great step. The next is to increase that tendency, and then guide it in the desired directions. These results may be accomplished by breeding together those types that more nearly approach our ideal."

"The successful stock breeder is he with the truest and highest ideal, and who is able to detect and select those animals most nearly aproaching it. To select thus he must know the internal as well as the external anatomy of the animals he is breeding; must know their habits, tendencies, and ancestry. The men who have achieved greatness in this line have been wide readers, deep thinkers, and close observers."

We may sum up the important inferences to be drawn from the whole discussion so far, as follows:

1. There are no reasons for supposing that any essential difference exists between the breeding of bees and the breeding of other stock.

2. Drones can be selected, to the extent that we can be sure that a queen mates with some of the drones from a particular queen.

3. Queens should not be selected for breeding because their colonies are above the average. Such queens should only be experimented with, to find out whether any one or more of their descendants will transmit their traits uniformly.

4. Those queens should be selected for general breeding purposes whose ancestors have been uniformly good for several generations back, and whose own colonies are fairly good.

5. Every bee-keeper should study to acquire a theoretical knowledge of breeding, in order that he may improve his stock, and consequently his honey crop and his profits, by being able to discriminate between the pretensions of those upon whom he relies for breeding-stock.

6. A professional honey-producer should not waste any time in breeding a strain of his own, if there is any reasonable chance of procuring a good strain from one who makes a specialty of breeding.

7. Bee-keepers should plan to co-operate in furnishing their best queens to breeders for further tests.

F. L. Thompson.

Mr. Devinny—It seems that the whole aim of breeding now is to increase the length of the tongue. Why should not the wing be increased to correspond with the tongue, so that the bee can carry the bigger loads? Some of the finest race-horses have come from "chance seedlings," so to speak.

Mr. Gill—There is no danger of a bee loading up too much, for it can hold just so much and no more. But there is something in that matter of wing-power. Too much can be done to establish one quality to the detriment of the constitution. We want bees of strong wing-power, long-lived, and of good constitution.

W. Z. Hutchinson—We are not sure that all bees have the same-sized honey-sacs. I spent half a day with Mr. Simpson in measuring the capacity and tongue-length of bees. To measure the tongue-length, he uses very small glass tubes, half an inch long, closed at one end, and filled with honey. The tubes are filled with honey by first inserting a wire, plunging in honey, and withdrawing the wire. Then the open end of the tube is applied to the wire-cloth of the cage in which the bee is, and the length to which the honey is withdrawn shows the tongue-reach of that bee—perhaps 20-100 of an inch. To measure the capacity of the honey-sac, he uses a long tube, open at both ends. Some bees would take out an inch and a quarter of honey, some an inch, and some an inch and a half. All those bees had been kept without food, so that their honey-sacs were empty. I agree with Mr. Gill that we should not breed for one thing. We want hardiness as well.

Mr. Harris—We should encourage every line of investigation. Things have come down from one generation to another. We must take time. Everything can not be done at once.

Mr.. Lytle—Two things stand in the way of the improvement of queens. We need some means by which queens can reach buyers in as good condition as they leave the breeders. We also need a set of men who are willing to experiment enough to make a good stock. You have to reach down into your pockets to get good results.

(To be continued.)

Contributed Articles.

Selling Honey by Weight or Case—Which is Better?

BY F. GREINER.

I find the people I have to deal with are very loth buying honey by the case. In buying anything we all want to know what we are getting. Even grain must hold out weight or we are not willing to pay the specified price. If I guarantee the number of pounds each case of honey contains, and the cases fall not short, then no objection could be raised against my selling by the case.

I am using but one size of sections, but when casing I find there is always some difference in the weight of the filled sections. When well filled they weigh a full pound; but others scantily filled scarcely weigh three-fourths of a pound. The quality of this light-weight honey may be exactly as good—how, then, ought I to case it in order to sell my honey by the case, and do justice to the buyer and myself?

My practice has been to select sections of uniform weight (quality of honey to be the same) and case by themselves; weigh each case carefully and note the net weight on the cover, not necessarily in a conspicuous manner except when desired by the purchaser. In thus casing there would sometimes be a difference of 6 pounds between the heaviest cases and the lightest ones. By interchanging sections the two cases could be evened up so that each would weigh 21 pounds (24 sections to the case); but the retailer would then not sell them by the piece alike, but would have to sell them by weight, which would be a good deal of trouble to him.

It is a well established custom by the retailers of honey to sell by the piece, and for that reason sections ought to run uniformly throughout a case, throughout the whole lot, if possible. However, many of us cannot produce honey of the desirable uniformity, although we aim to do so. Perhaps our stock of bees consists of poor workers, or our management may be faulty; possibly our location is not the best and we can only obtain very low yields, the honey coming very slow and in spurts. Whatever the reason may be, our honey here lacks uniformity, and I notice that this location is not the only one producing such honey. If we were always blessed with bountiful honey-yields, say 50 pounds per colony, spring count, I think we could produce more uniform honey; but as it is, we cannot or don't.

Now, as stated before, the retailers want to sell by the piece—we want to sell by the piece ourselves when retailing—and it is a great help if all sections in a case are so uniform that any *one* of the 24 is a fair representative of the other 23. With the net weight marked on each case it is an easy matter to figure out what a section costs at a certain figure per pound; a section of another case may have to be sold for a trifle more or less, according to the weight of the whole 24. On the whole, it is less complicated if the sections contained in a case are uniform, than if the cases all averaged uniformly in weight, but sections in these cases were not uniform. It is very true, it would be better if not only the sections in each case were uniform but also all cases among themselves. But if I had to case my honey in this manner, a great deal of it would not be suitable for casing at all. The over-weight sections would have to be rejected, also the light-weight sections. In a liberal mood I might let the heavy weighters go in with those of the desired weight, but then, someone would get more than he paid for, and I would not get my just dues.

It would be an injustice even if the producer was willing to stand it.

I observe the Root Company is very careful to buy by weight only, and I fail to see why this system should not be good. To sell by weight is practical and entirely satisfactory. Each party knows what he is selling, each what he is buying. If the Colorado people sell by the case, but guarantee each case to weigh 21 pounds or any other number of pounds, then they practically do sell by weight and not by the case.

What is the motive, any way, to lump off our honey? Is it to take advantage of the purchaser? I cannot see any justice in selling honey by the case regardless of weight.

Ontario Co., N. Y.

Damp Bee-Cellars and Safe Wintering of Bees.

BY G. M. DOOLITTLE.

A correspondent writes thus: "My bee-cellar seems very damp, so much so that the floor is quite sticky, and the moisture has collected in drops on the overhead wall. The bees, however, appear very quiet, and, as far as I can judge are doing well so far. Will this dampness do any particular harm, or accumulate to a sufficient extent to injure the bees before it is time to put them out in the spring? Please give us your views on this matter in the American Bee Journal."

I am glad to have the correspondent say that his bees "appear very quiet," for quietness is the essential quality for safe wintering, for with it always comes the least consumption of stores, and with a minimum consumption of stores comes the least possible exhausted vitality and the greatest longevity during the spring and early summer days. Under such circumstances I have had individual bees by the thousand, in one colony, live from the first of September till July 1st of the following year, or for a period of ten months, this being known by a change of queens on or about the tenth of the preceding August.

Now, I wish to say to each and every one, that, so long as bees are quiet, no matter where they are—whether in the cellar, in a room above ground, or on the summer stand—they are wintering in the best possible condition, and should be left undisturbed, no matter if the place where they are is dripping wet, or so dry that you may fear the bees are suffering from want of water.

Many seem to suppose that a cellar in which bees are wintering should appear absolutely dry in all of its parts, and, if it does not, or shows a condition of things similar to that described by our correspondent, they become fearful of the final results, often taking the bees out too early in the spring, or putting them into another cellar or room which exhibits more dryness. Allow me to say once more, "Don't touch them as long as they are quiet, until the time of putting out comes, no matter what all or any of the other conditions may be.

From all the experience of the past I am convinced that the temperature of the bee-repository has more to do with safe wintering than any other one thing, and especially is this the case where the repository is affected with dampness as is the one our correspondent describes. Should the temperature in such a repository sink to near or quite the freezing point, it will be found that the bees will no longer be quiet, but will become uneasy, and go to roaring, and running out of their hives, should such a temperature continue long; but if the temperature can be kept from 44 degrees to 48 degrees, all things will continue as they were when he reported, unless some disturbing element enters in beside the moisture.

As I was in my bee-cellar a day or two ago, perhaps I can better illustrate what I wish to say by telling how I found things there January 12, 1902; and as far as I could see the bees were wintering unusually well. I found the temperature at 46, and the overhead wall very damp, so much so that the water was running down the flag-stones which formed the roof, from the condensation of moisture on them. Then the sawdust on the floor, the farthest from the doors, was so wet that I could nearly squeeze water out of it, while near the door end it is barely moist enough to be pliable to the hand. This sawdust has a flour-sack full added to it every two or three weeks, so as to keep the dying bees from molding or being mashed on the floor, and the reason for going in on January 12 was to add another sack full.

The moisture which runs down from the stone roof is caught by the mason-work walls, and as the top of these slopes out and away from the inside of the cellar, it is carried to the outside of the wall rather than staying inside. Some may call this cellar absolutely wet, but such is not the case, for the hives and all about them (they do not touch the wall or the floor of the cellar) appears as dry as in summer, and will so long as the colony of bees remains alive inside. But should any colony die, then the combs and honey take on moisture very similar to the flagging; and if any colony should die very soon after being put in, the combs would become quite moldy by the time the bees should be put out; but as I have not lost an average of two per cent in this cellar during the past 12 years, it is very few combs indeed that have become thus wet and moldy.

Perhaps some of the readers of the American Bee Journal would like to know how the bees appear. They are so quiet that often I stand with a lighted candle in front of a colony, holding the candle within 12 to 15 inches of the bees for two or three minutes, and I could not see that a single bee moved at all; but a little breath from my mouth upon them at the end of this time, will make them all raise their abdomens and thrust out their stings; and if I continue after this to stay longer, they will soon begin to crawl about and some of those coming from the inside of the cluster attempt to fly to the light. Some of the stronger colonies have nearly as many bees hanging below the combs as it would take to make a fairly good after-swarm, while the weaker ones show only the points to their abdomens standing out all along in rows between the bottoms of the combs; and if very light in bees a few are up so far on the combs that no bees are seen from the bottom of the hive.

For cellar-wintering I like the Dr. Miller bottom-board very much, as it catches the most of the dead bees, as well as to allow ample space for the stronger colonies to hang below the combs all they desire, besides giving full and ample ventilation, from the bottom, for all the wants of the bees. Then, to any lover of bees, these bottom-boards give a chance to see the clusters whenever said lover enters the cellar, and where a colony clusters below the combs, or in the shape of those first and second described above, it is something so enchanting to look upon, that it becomes almost bewitching, and it is with reluctance that I leave the cellar every time I go in.

The viewing of a cluster having from two to three quarts of bees hanging below the combs—somthing like a swarm in June, all perfectly motionless, and each bee lapping over its neighbor like rows of shingles on a roof, right in the center of the winter, with the mercury from 10 to 20 degrees below zero outside—is a sight to make one feel very cheery, and that is apt to give almost any one what is called a "bee-fever." In fact, I find that I have a touch of that disease myself, whenever I go into the bee-cellar, although I have kept bees now over 32 years.

Onondaga Co., N. Y., Jan. 17.

The Honey Crop of 1901—Marketing, Etc.

BY B. A. HADSELL.

The following clipping is taken from one of the best agricultural papers in the United States:

MARKETING HONEY THROUGH DIRECT SALE.

It is the commission man selling the lowest who does the business and who establishes the price of our products. The honest commission man—the one who would get full value—is not in it. He is at the mercy of the most unscrupulous member of the craft, and we are no better than their slaves. I want you to understand me, and I will repeat—It is the commission man who sells the lowest who establishes the price.

Stop selling honey through commission men, and then see what the dealers who will buy for cash will pay. If they cannot get our goods on commission they must pay cash. Having money invested in it, then and not till then, will they try and sustain prices. I have asked many city dealers of whom they purchased their farm produce and they invariably said through commission houses, and gave for their reason that they could in that way buy cheaper than of the farmer. I remember one instance in particular, where the dealer, with a knowing wink and laugh, said he would rather let the commission man settle with the farmer, and then his conscience would be clear. W. F. MARKS.

The above explains why we do not receive a fair price

for our honey. Untruthful and unfair means are resorted to in controlling the press, by which prices are depressed and producers encouraged to sell. To illustrate: I am the regular correspondent for one of the largest farm papers in the United States for the county which produces nearly all the honey shipped out of Arizona; and I am one of the largest producers of honey in the Territory. Recently an article appeared in the paper I represent, headed from my Territory, but no name signed to it, evidently written and paid for by some Eastern commission man who never saw Arizona. He had it headed, "Big crop of honey in Arizona;" and went on to say that the conditions had been favorable, and that the bee-men had harvested a big crop from desert flowers and cactus fruit and bloom, and gave the average yield at four times its actual amount. The entire article was a false statement. I sent a reply, giving the exact report of the amount produced, correcting his false statements, and saying that the desert flowers had started four times the past three years and had dried up without bloom or seed, and I doubted if there was seed left to sprout again; and that I never saw cactus honey.

Supply and demand have nothing to do with it. Early in the season, before the crop was harvested, Arizona bee-keepers received letters from commission men, all quoting the same low prices, telling us of the big crops and foreign competition. One who had been handling our honey before was bolder than the rest and went on to say that our brother bee-keepers in Cuba were offering to lay down honey in Chicago at 3 cents, and we would have to meet this foreign competition or hold our honey. This was too much for an alfalfa bee-keeper to stand. The commission man got a reply that we had no 3-cent honey, and that when the Cuban bee-keeper packed his honey on burrows from the interior to the coast, and shipped it to New York and paid 20 cents a gallon duty, then shipped it to Chicago and paid him his commission, we would advise our brother bee-keeper to send a cargo of bananas along to pay expenses.

On page 643 (1901) a Chicago commission man tells us that Colorado, Nevada, and Utah are finding that there is not the demand from the East that has existed, and are beginning to get anxious about marketing their honey. That is just what those letters and false articles were sent out for, and it is that which has unsettled the market and held back buyers from buying his supply. As usual, the local merchants, and even the farmers, have refused to buy their usual can of honey, all quoting the big California, Cuban, or other foreign crops; unwilling to pay even a reduced price. He says that when we know the facts we will be governed accordingly. Yes, the facts are not allowed to go to press, as in my case, and won't be until this year's crop is sold. He goes on to try to convince us that it will do us good to have these false reports sent out, but we know better, and want the truth.

Can't the National Bee-Keepers' Association stop such adulteration of the press? Maricopa Co., Ariz.

[This article was received early last December, but became mislaid, else it would have appeared sooner. But it has not lost its value by reason of the delay.—EDITOR.]

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

SMALL LOTS OF HONEY ON COMMISSION.

One would reasonably imagine that 100 pounds of honey would be too small a lot to ship to the commission man. Poor guide, that imagination, it seems. Mr. Doolittle has an experience 23 years' long on just that point; and he finds that such little lots *always* turn out more profitably than big ones. Let's mark it down. Page 6.

SPRAYING FRUIT-BLOOM.

The valuable paper of Prof. Beach, of Geneva, N. Y., on the red-hot subject of poisoning our bees—well, we want the scientists to hurry up, so as to have not quite so many may-be-sos and may-be-nots. The fact that hitting *all the blossoms* soon after they open will destroy all the young fruit, appears to be one of the best things to give our pomological neighbors. As for the rest, perhaps an appeal to their sense of justice may be worth while. To destroy fungi and kill insects *by the only practical means* does not greatly offend the public sense of justice, even if some minor interests do suffer. But it does offend the public sense of justice to spread injuriously poison, just for the sake of thinning out the fruit. What would be thought of the farmer who thinned his corn by shooting shot through it—and peppered his neighbors' cows? It might also be worth while to say: Do you want the strong, first blooms all killed, and only laggards and side blooms left to furnish your crop of fruit? Interesting to see that Prof. Beach classes apple pollen as one of the kinds not well adapted to floating on the wind, and therefore specially depend on insects. Pages 7 to 9.

GETTING HONEY FROM BOX-HIVES.

It is not merely a few pounds but several hundred pounds of honey that are involved, page 10. If Dr. Miller will be patient with my know-it-all style, I wish to protest his answer to the man who wants to close out 20 box-hives. *Don't* melt chunk honey, except to close out the remainders. If the man will properly sort over his combs, and then proceed by crushing and draining in a warm place, he may just as well have from one-third to two-thirds of his honey of excellent quality as to half spoil it. As it is not the necessary heat that does the major part of the mischief, care in that respect will not make the honey good. The harm comes from contact between hot honey and dirt, and contact between hot honey and pollen and propolis. Most cappings and most combs have more or less propolis on or in them—and dirt also. Combs with masses of pollen in them are likely to make trouble even without melting, and would better be left for a second lot.

INCREASE OUT OF LOW-GRADE HONEY.

Where a man wants both honey and increase, and operates two locations, it's just the cunning thing to make the increase in the location where low-grade honey comes in during the time when bees incline to boom. Rather dark honey with off flavors will make up into bees as well as any. S. Q. Conkle suggests this for us on page 13.

BEE-KEEPING IN RUSSIA.

And so in Russia, when their bees all kick up their heels and die, they go 2,800 miles and buy a lot more. That's all right. And, the world over, what a cosmopolitan the bee is, in this little matter of taking sudden leave of her keeper and slipping through the shady gates! And the juice-producing bug, who puts the gates ajar, he's a cosmopolitan also, it seems. Some of our people would give up if they lost 500 colonies at one lick. Pages 18 and 20.

COLD-WATER HIVE-PAINT.

That cold-water hive-paint, page 20 and elsewhere; we are all axious to see it. If water will wash it on, why won't it wash it off?

BEES NECESSARY TO THE FRUIT-GROWER.

This department does not run to quotations much; but it puts in gladly and fully this one from H. W. Collingwood. It's not likely to be printed too many times. Glad so weighty a man as the editor of the Rural New-Yorker said it, and not one of the smaller fry—and not a bee-man of any sort:

"With all his proud dominion over the lower forces of nature, man cannot produce the finest and most perfect fruits without the help of his friend, the bee. That, I believe, will be the conclusion of every fruit-grower who will really study the question." Page 20.

MASCULINE PRONOUNS FOR WORKER-BEES.

I laugh to see that Editor Collingwood's masculine pronouns applied to the bee, a big lot of them, got into the American Bee Journal without being checked out. While nobody's listening let me make a horrible confession. I mostly use masculines for the bee, too (or would, if I had my sweet will) but the Editor *she* won't let 'em go through. —[And Editor Collingwood wouldn't have succeeded in getting them through, either, had it not been that there were so many of them in his paper. And, besides, he is not a bee-keeper. We expect bee-keepers to call things apiarian by their right names, as they are supposed to know better. A *he* woman would never get into the American Bee Journal, even if a Collingwood or a Hasty would try it on.—EDITOR.]

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Do Bees Build Cells Full Depth Before Putting Honey into Them.

On page 44, Sarah J. Griffith says of her bees: "They made a lot of comb in the sections in the fall, but could not get honey to fill them, so I will have nearly a hundred to commence with in the spring, the most of them full of comb." Is it a common thing for bees to fill sections with comb before putting any honey in them? SUBSCRIBER.

ANSWER.—I do not believe that bees ever filled a section with empty comb. They build comb no faster than it is needed, and the probability is that if the sections in question had been taken off earlier they would have had honey in them. Being left on the hive after the harvest was over, the bees carried the honey down into the brood-chamber.

Sowing Sweet Clover.

1. With the idea of sowing sweet clover for bee-pasture I had plowed up last fall about three acres of land. The soil is sandy and poor, being run out and too impoverished to farm profitably. There was no sod to speak of, the land having grown up in weeds. Now, would it be wise to sow the seed on the rough-plowed land, and harrow over, covering deeply? or would it be a better plan to level the land by harrowing first, and then sow the seed and cover by a second harrowing?

2. What is the difference, if any, between the white and yellow varieties of sweet clover in the matter of honey-production and time of bloom? NEW BRUNSWICK.

ANSWERS.—1. I believe I would sow pretty heavily without first harrowing. That will give seeds at different depths, some of it pretty deep, whereas if you harrow first none of it will be very deep, and if you should have the experience I once had it might all heave the first winter. Very hard ground seems to be best, and if not hard it is probably best to sow deep.

2. I don't know the difference in honey-production, but if I remember rightly, there is about two to four weeks' difference in the time of bloom, the yellow being the earlier.

Moving Bees on the Cars.

I have accepted the pastorate of a church here and have rented my berry farm in Iowa. I intend to ship my bees here in the spring when I move my family. The time of moving will depend somewhat on how soon it will be safe to move the bees.

1. Will it be safe to take them from the cellar and ship them 200 miles by cars before they have had a flight in the spring? I put 22 colonies into the cellar and they seem to be in good condition when I examined them the first of January.

2. If they are prepared for shipment with a wire-cloth screen on top of the hive in place of a cover, and the entrance securely fastened up, will they be all right?

3. Would it be safe to ship them in a car with a horse, cow, and household goods?

This is a town on the Mississippi 40 miles northwest of Minneapolis. There are but few bees kept here. There is considerable basswood along the river, and I think it will be a good location for bees. MINNESOTA.

ANSWERS.—1. They may stand the journey a great deal better after having a spring flight.

2. Yes, wire-cloth covering the whole top will give them all the air needed, even if the entrance be hermetically sealed. But it will be all right, too, to have the entrance closed with wire-cloth.

3. Yes, animals and other goods in the car will do no hurt, so that everything is so firmly in place that there is no danger of collision between the bees and anything else. There must be no possibility of anything being shoved against the hives, and the hives must be fastened in place so they can not move. It will be a simple matter to pack the hives if there is enough room so that each hive can be placed on the floor of the car. All you need to do is to nail cleats of inch stuff on the floor so the hives cannot move, having the hives placed so the frames run parallel with the rails. Most likely, however, there will be so little room that the hives will have to be piled on top of one another. In that case, of course, it will not do to set one hive directly on another so as to cover up the wire-cloth. One way to do is to fasten two strips across the hives, on which to set the next hives. Unless the weather is quite cool it will be a good thing to have in each hive a sponge or rag filled with water.

The "Golden" Comb-Honey System—10-Frame vs. 8-Frame Hives.

1. What is the "Golden" plan or system, mentioned on page 57, for production of comb honey?

2. Can a 10-frame hive be used as successfully as an 8-frame hive for comb honey? and under what circumstances? JERSEYMAN.

ANSWERS.—1. It would take up too much room to answer here your question in full, but it may be found in the American Bee Journal for 1899, pages 34, 66, and 97. On page 57 (this year) to which you refer, Mr. Hartzell inquires why the five men named did not accept his proposition, and then says it was prejudice, although when he made the proposition he declared that he believed them all to be honorable and unbiased. His proposition was that they should each buy a hive from Mr. Golden, and test it, and if it proved unsatisfactory Mr. Hartzell would buy the hive from them. That would give them no pay for their time and trouble except what they might get from the gain in the system. Evidently they had not enough faith in that gain to be willing to make the test, even if it cost them nothing to make that test.

2. Yes, I am sure that good crops of comb honey can be obtained from 10-frame hives, for I have obtained them myself. I used 10-frame hives for years, and I am not sure but I got just as good crops as with 8-frame hives. But the work in handling hives and supers was very much heavier. I don't know that any great difference in circumstances would call for one more than another, unless it be that 10-frame hives require stronger colonies to start storing than are absolutely necessary in 8-frame hives.

Moving Bees on a Bobsled—Preventing Swarming—Facing Hives.

1. In moving bees about the first of March, that are packed with four inches of chaff all around and on top, would you smoke them before loading them on the bobsled, or handle them as quietly as possible without smoke? Would smoking do more harm than the excitement of jarring, etc., without, in case they did not have a flight within a couple of weeks? I wish to move them about three miles.

2. I want to run part of the apiary for extracted honey next season. If, on approach of the honey-flow, I take three or four combs pretty well filled with sealed brood, and place in an upper story, finishing out with empty combs or frames filled with foundation, and fill in the lower hive where brood was taken from with empty combs, would it work all right, and be likely to keep down swarming? I shall use queen-excluders between the hives.

3. Will bees do as well, and gather as much honey, with hive entrances facing north as they will with entrances to the south or southeast, especially if hives are under trees? NEW YORK.

ANSWERS.—1. By all means avoid the use of smoke as much as possible. If you can fasten the bees in the hive without smoke, there will certainly be no need of smoking them afterward. The smoking and jarring will do more harm than the jarring alone.

2. It will work well, and there will be less likelihood of swarming, but if you go the whole figure, as many bee-keepers do, and put all the brood above, leaving only empty frames or combs below, you may like it still better, as in that case you are practically free from swarming.

3. That question has been discussed a good deal, and opinions differ. It is doubtful that you will find a very marked difference.

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GENERAL ITEMS

Did Well Last Season.

My bees did well last season, but I do not know how they will come out in the spring as it has been so very cold and dry during the winter, but they are in good condition now.

I am the only bee-keeper that takes any reading at all, but the others run after me to take care of their bees, and want it done for friendship's sake. It seems as if I could not get along without the Journal.

JOSEPH A. LEWIS.

Navajo Co., Ariz., Jan. 23.

More Rain Expected.

We had a fine rain here in Orange county—about 3 inches up in the mountain—last week. It is cloudy to-day, and we will have some more rain soon. The sage is starting finely, from which the bees will gather the water-white honey next spring, if we have later rains.

I sold 5 tons of honey last year for 4 and 4¼ cents per pound. There is no market for honey here. I have 200 colonies of bees in good condition, almost all Italians. I run two apiaries 4½ miles apart, 100 colonies in each apiary. F. S. BUCHHEIM.

Orange Co., Calif., Feb. 3.

Poor Season for Bees.

The weather has been so very dry the past season that the bees barely lived, and gave scarcely any surplus, except a hundred pounds or so, taken from brood-nest where they had too many combs for wintering, which was extracted. Our extracted honey has sold better candied than in the liquid form the past few years. The grocer can then dish it out on his little trays or butter-dishes just as he does butter or lard, and it is not so dauby to handle as when in the liquid form.

MRS. L. C. AXTELL.

Warren Co., Ill., Jan. 30.

Working on Red Clover.

Bees are wintering splendidly so far. To this date I have not lost a colony. I look forward to a successful year, for the white clover in this vicinity was excellent when winter set in, and the red clover is in good shape so far. I am convinced that the latter clover was the source from which the bulk of the honey came here. For the last two years the bees have been working well on red clover in this vicinity. CHAUNCEY REYNOLDS.

Sandusky Co., Ohio, Feb. 1.

A Woman's Report—Propolis.

Seeing so many reports in the American Bee Journal of many apiaries and honey crops induces me to try and describe our success among bees.

Our apiary is situated about 8 miles east and a little south of Longmont, and in a real, good locality. But the country is nearly filled up with bees, and more coming in.

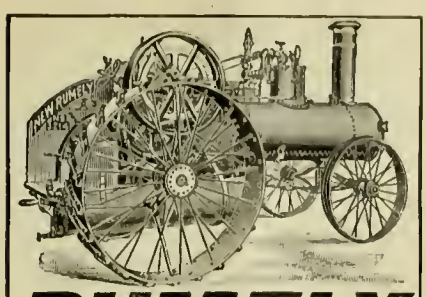
My husband ran about 200 colonies last year, and got 700 cases of 24 sections in a case, and only about 200 pounds of extracted honey. We did a great deal better than a good many bee-men in this part of the county. It would have been a great deal better if we had had more moisture from July on through the fall.

This year we intend to run about 300 colonies. Bees are selling here for $5 to $7 per colony.

The bees gather nearly all the honey from sweet clover, alfalfa and Rocky Mountain bee-plant.

Can you tell us about the sale of propolis or bee-glue, whether there is any demand for it, and how we shall prepare it for market?

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.



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WANTED 75 to 125 colonies of bees in some location where I can have room for 3 apiaries, within 100 miles of Chicago—in Indiana, Michigan, or Wisconsin.

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PRIZE
COLLECTION OF
BUCKBEES BEST SEEDS
contains Radish, 17 sorts; Lettuce, 12 sorts; Tomatoes, 11 rare; Turnips, 7 beauties; Onions, 8 fine ones; 55 sorts in all, will be sent you, with my new seed growers Guide Book
FREE
If you mention this paper and send 10 cents to help cover postage and packing. Send to-day.
H. W. BUCKBEE,
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Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker

FOR 23 YEARS THE BEST ON EARTH.

25Atf T. F. BINGHAM, Farwell, Mich.

30 DAYS TRIAL.

on any vehicle we make. Keep it if you like it, return it if you dislike it. We save you dealer and jobber profits. If you want to know more send for our free 22nd annual catalogue.

KALAMAZOO CARRIAGE & HARNESS MFG. COMPANY,
(*Pioneers of the Free Trial Plan.*)
Station 33. Kalamazoo, Michigan.

Also tell us how to separate the wax from the bee-glue.—[So far as we know, there is no sale for propolis. EDITOR.]

We have about 150 colonies at home fixed for winter, by putting chaff in an empty super over each brood-chamber.

We have had a very nice winter, bees flying all month up to this last week, when it became real cold. MRS. J. H. TAYLOR.

Weld Co., Colo., Jan. 26.

'Way Down In "Egypt."

I was down in Illinois at my old home place, in "Egypt." I have been away for 25 years. As far as bee-culture is concerned there has been no change even in 60 years. The same old log or board gums are used, and honey taken out from the top in chunks, either at night or when the weather was so cold the bees could not fly. I saw no one that took any care of their bees, and very few will keep bees, as they say it is too much trouble, and the moths are too bad.

I had sent a few cases down there before I went, and one man that had a few bees and was peddling honey as black as tar, said the honey I sent down was not made by the bees; that the bees never made it so even and so white as that was. He declared it was all manufactured, and warned the folks not to eat it. There was no one that I talked with that was afraid of it.

I was in Alexander, Union and Williamson Counties, Illinois, and saw but few bees.

W. G. LINDZA.

Boulder, Colo., Jan. 29.

Advertise the Truth About Honey.

Now about those big lies that are going the rounds of the press in regard to comb honey. It really looks discouraging when an editor can find room to publish falsehoods to injure a class of honest producers, yet when furnished with the truth cannot give it room. Now I want to suggest that the National Association take the matter up. Surely, it is of enough importance, as it affects all honey-producers everywhere.

My suggestion is this: Let the Association buy space in suitable papers, paying advertising rates, if necessary, in order to furnish the consumers with the truth about the matter, and head off the big lies. It seems to me some of the money could be used to good advantage thus. W. G. GATHRIGHT.

Donna Ana Co., New Mex.

Reports of the Parma Convention.

The annual meeting of the Parma Bee-Keepers' Association met in Parma, Ida., at 10 a.m. Jan 18, 1902, with a large attendance, Pres. Brush being in the chair. In the discussions many interesting points were brought out, some perferring 8-frames. Some having large hives claimed 45 Danz. sections of comb honey could be produced in the same time it took 8-frame colonies to produce 24 sections.

Reversible bottom-boards were generally perferred.

After a basket dinner the following officers were elected: Mrs. Mitchell, president; F. R. Fouch and H. M. Ruddock, secretaries.

We shall try in the future to get better rates on honey, from transporation companies.

The Chantry feeder for stimulating breeding was shown, and its use illustrated by E. F.

CYPHERS INCUBATOR

World's Standard Hatcher.

Used on 26 Gov. Experiment Stations, in U. S., Canada, Australia and New Zealand; also by America's leading poultrymen and thousands of others. Guaranteed to give satisfaction or price refunded. The Original and **Only Genuine Non-Moisture Incubator,**

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men were broken on the wheel, now they buy

Electric Steel Wheels,

and save money. They fit any wagon. Made with either staggered or straight spokes. Let us tell you how to make a low down wagon with any size wheel, any width tire. Catalog tells. It's free.

Electric Wheel Co., Box 16, Quincy, Ill.

WANTED Partner, with capital, to keep bees on large scale in honey locality never known to fail; close to good market. To associate with party of 20 years' experience. Reference, Editor American Bee Journal, for character, ability, etc. Address, BEE-KEEPER, 622 Colorado Ave., Chicago, Ill.

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Don't lug barrels of water around when spraying. Use the poison direct. Our

Common Sense Dust Sprayer

and Insect Exterminator is a most ingenious device that is rapidly supplanting the old methods. It blows the finely powdered dust into every nook and crevice. Reaches the bottoms as well as the tops of leaves. Destroys insect life on plants, vines, shrubs and trees. Just as effective for vermin on poultry and pigs. More rapid than spraying. Descriptive circulars and testimonials free.

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200-Egg Incubator for $12.80

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.

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45A26t Mention the American Bee Journal.

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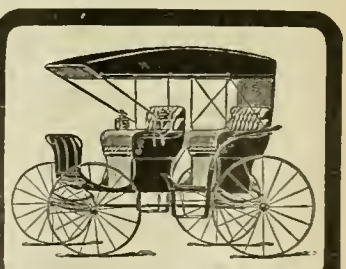
are the best made, and will ship anywhere on **30 Days' Free Trial.** Take it home, hitch to it, use it, and pay for it when you are satisfied that it is a bargain. We would not dare do this, if we did not know that everything we make would prove satisfactory. If you do not think they are the best, after a fair trial send them back. We won't quarrel with you. Our new catalogue fully explains this plan and shows our full line of vehicles and harness; it is free.

Ohio Carriage Mfg. Co., Station 6, Cincinnati, O.



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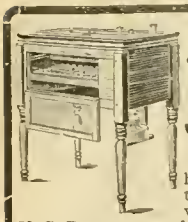

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FREE Our handsome Garden Annual and Seed Catalogue. Send your address on a postal to-day, or for a 2c stamp and name of a neighbor who is an actual seed buyer, Catalog and a packet of the Large German PANSY If sent before March 20th. Address **Seed**

COLE'S SEED STORE, Pella, Iowa.

ALWAYS READY.

The **ADAM** Green Bone CUTTER

is always clean and ready for work. Impossible to choke it up. Cleans itself.

The Only Bone Cutter with all ball bearings.

Works quickly and easily. No choking or injuring of fowls by slivers or sharp pieces. Cuts a clean light shave that is easily digested by smallest chicks. Send for Catalog No. 9. Contains much valuable information on the cut bone question. You will be pleased with it. Sent free upon request.

W. J. ADAM, JOLIET, ILLS.

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Wanted Comb and Extracted Honey!

State price, kind and quantity.

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Successful Incubator (The Egg) Brooder (The Chick)

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Lots of lies have been told about the Rural Mail Box business. Here are the facts. There are 14 approved boxes and with the makers it is "everybody for himself and the devil take the hindermost." We plead guilty to getting the lion's share of the business, simply because our box has such "winning way." Write us and learn about it.

BOND STEEL POST CO., ADRIAN, MICH.

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Atwater. This feeder is cheap, easily made, and one of the best feeders in existence. Mr. Atwater followed this by a short talk on queen-rearing, and the importance of rearing our own queens from the best stock obtainable.

A State Association was also formed, its purpose being to protect the bee-keepers of the State, and to keep diseased colonies of bees from being shipped. We also have a bee-inspector for foul-brood, etc.

This section of the country is full of bees, and short pasture will soon be the next drawback. H. M. RUDDOCK, *Sec.*

Canyon Co., Ida.

The Boston Honey Market.

There is a good opportunity for honest honey-producers to cultivate a market in Boston and vicinity. Not a quarter the honey is consumed that should be.

I have seen some very fancy white comb honey there and have had occasion to sample different lots, but so far I have not found any equal to our Aroostook clover and whitewood honey. I suppose it is there, but there is considerable honey on the market that is fine in appearance but lacks that fine flavor found in honey from more northern latitudes.

O. B. GRIFFIN.

Aroostook Co., Maine, Feb. 13.

White Clover May Not Do Much.

We have about 600 colonies of bees for the coming season, but fear that white clover will not do much the coming season, as the past summer was so dry that the greater part of it was killed out; however, we have two chances for a crop, as our bees are all located where heartsease is plentiful and yields fully half our surplus, as well as furnishing a bountiful supply of excellent food for winter.

The past three years have been very satisfactory to us. FRANK COVERDALE.

Jackson Co., Iowa, Jan. 31.

An Old Bee-Keeper.

Last spring I had 5 colonies and now have 12 (if they come through all right) without boxes on.

I took off last year something over 400 pounds of extracted honey, worth here 12 cents per pound.

I am not able to do any heavy work, but I think I can do a little and put in the time more satisfactorily than to be idle. I am nearing my 76th year.

We have a quantity of honey-locust, and a lot of linden, which lasts quite a while; also white clover, then white sweet clover along the roadsides. I still like to work at bee-keeping rather than be idle.

GEORGE MCCULLOUGH.

Page Co., Iowa, Feb. 3.

Hauling Bees with Open Hive-Entrances.

A case is reported in Gleanings in Bee-Culture as having been successfully accomplished by Adin Stone. While it might not be wise for most persons to try such a thing, it is well enough to know what can be done. He says:

I had about one mile to move, and about as many hives as I could place on a lumber-wagon as they sat in the apiary. I loaded them in as they sat, first using the smoker to drive the bees inside. I hitched a horse to the load and drove to my destination; unhitching the horse from the wagon, I waited until morning, when I put them on their stands. These were full colonies in eight-frame hives, Hoffman self-spacing frames, loose bottom-boards, ¼-inch entrance full width of both

"ALL RIGHT" Little Sixty at **$8.00**

This means that we ship anywhere our 60 Egg Copper Tank "All Right" Incubator on FORTY DAYS FREE TRIAL and charge $8.00 for it only when the customer is satisfied. Absolutely the best 60 egg machine on the market at any price. Send for our free poultry book, "All Right." (Western orders shipped from Des Moines, Ia.

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ITALIAN QUEENS and the WARFIELD STRAWBERRY...

D. J. BLOCHER, Pearl City, Ill.

Ask for our price-list and testimonials.

As we are spending the winter in North Dakota, all our correspondence, whether social or business (until further notice) should be addressed,

D. J. BLOCHER, Denbeigh, N. Dak.

4Atf Please mention the Bee Journal.

PAGE

NO "LOCKS", "STAPLES",

or "Ratchets" to lose off with PAGE FENCE.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.

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The Sure Hatch

Is the incubator for the poultry raiser, whether farmer or fancier. Anyone can run them, because they run themselves. Anyone can own them, because the price is right. Machine and results guaranteed; you take no risk. Our Common Sense Brooder is the best at any price, and we sell it very low. Handsome catalogue containing hundreds of views and full of honest poultry information, mailed free. When writing address nearest office.

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Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand.
The freights from Cincinnati are the lowest.
Prompt service is what I practice. Satisfaction guaranteed.
Catalog mailed free—send for same.
The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.
You will save money by buying from me.

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THE DEMING CO., SALEM, OHIO.

Western Agts., Henton & Hobbell, Chicago.

49A13t Please mention the Bee Journal.

ends of hives. All of them were left open as they stood when at work in the apiary. I moved on a lumber-wagon without springs, over a stony road, and through a small village, in daylight, between 6 and 7 o'clock p.m.

I don't advise anybody, nor claim this as the proper way to handle bees; but I tell you what I did successfully. Not a person was stung, nor any trouble whatever came from the bees. Of course, they came outside and clustered on the hives. I walked and drove the horse (not a very steady one either.)

I found the same principle to work in this case as in handling bees in hives or hiving swarms. When thoroughly alarmed, and filled with honey, the bees attended to their own business and troubled nobody. I am satisfied I could have driven for miles with them.

I can not say that this plan will always work. It did that time and season, between spring and summer. Some new honey was coming in at the time.

Importance of Fresh Air in Bee-Cellars.

It will be remembered that in the winter of 1900-01 Editor Root reported wintering 50 colonies in an inside cellar—a room within a room—with great success. This winter the experiment is repeated on a larger scale, and Mr. Root seems somewhat enthusiastic over it. He also had a cellar constructed at an outapiary. When it is remembered that he has heretofore been very successful in out-door wintering, and has for the most part been rather an advocate of that kind of wintering, his advocacy of indoor wintering is all the more striking. He seems somewhat vehement in insisting upon the importance of plenty of pure air, for which belief he no doubt has the very best grounds. He reports:

There are 200 colonies of them, and they are wintering finely. To all appearances they are doing as well as the 50 colonies did a year ago; and these, it will be remembered, came through without the loss of a colony, and scarcely any dead bees on the floor. During warm nights, when the air is sultry, we open the door opening into the outer cellar, and just opposite this door is a window leading to the outside. The cool, fresh air pours in all night, and then before daylight comes on the door is closed. We have tried keeping the door shut every night running for three or four days, but the bees get uneasy and begin to roar. This goes to show that an infusion of fresh air from outdoors and a constant supply of it *all the time*, day and night, from the outer cellar having ten times the cubic capacity of the room in which the bees are, is important.

Yes, indeed, I am becoming more and more convinced that plenty of fresh air in indoor wintering is one of the prime essentials, and variation in temperature is only secondary. Why, the mercury in our bee-room last year, where the bees wintered so perfectly, moved up and down all the way from 38 to 60, and noise—there was a constant banging and slamming, and yet you will remember I kept those bees in till about the middle of May. The dead ones had never been swept up, and yet you *could almost* walk across that cellar without stepping on one. When we remembered that it is considered good wintering indoors, even if the cellar is completely covered with dead bees, the results I have mentioned are all the more remarkable.

The bees in the out-yard cellar are not doing quite so well, for the reason that a street-railway company have two or three times filled our drain, causing the water to back up. But we are sure of this, that Bingham's idea of ventilation through a shaft 20 inches square, going from the roof of the building above, is all right.

I believe bee-keepers have been making a great mistake in their house bee-cellars by not giving the bees fresh air, and lots of it.

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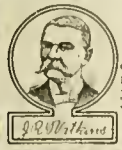

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., FEBRUARY 27, 1902.

FORTY-SECOND YEAR
No. 9.

WEEKLY

APIARY OF J. WARREN SHERMAN, OF SUFFOLK CO., N. Y.
(See page 132.)

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Feb. 18.—There has been a decline in the market on comb honey of one cent per pound since the month came in. Best grades of white now slow at 14c; sales chiefly at 13½c with some Western choice at 13c; no buckwheat comb offered, and other dark grades are meeting with little attention, prices ranging from 9@12c. Extracted is steady, white, 5½@7c, according to quality and what it is gathered from; amber, 5¼@5¾c; off grades at 5c. Beeswax wanted at 30c. R. A. BURNETT & Co.

ALBANY, N. Y., Feb. 7.—Honey market firm for all grades of comb honey, of which there is a very light stock here. White comb is selling at 15@16c; No. 2, 14@15c; buckwheat and amber, 13@14c. Extracted slow at 6@7c for white; but buckwheat extracted is selling best at 6 cents. Beeswax scarce, 28@30c. H. R. WRIGHT.

CINCINNATI, Feb. 7.—The honey market has been rather dull this year. Comb honey is selling fairly, and brings as follows: White clover, 15c; lower grades from 12½@14c. Extracted honey sells very slow, the lower grades bringing 5@6c, and fancy, 6½@7½c. Beeswax, 28@30c. C. H. W. WEBER.

BOSTON, Jan. 20.—Strictly fancy comb honey in cartons, 15½c; A No. 1, 15c; No. 1, 14½c; very little No. 2 to offer; stock nominally running No. 1 and A No. 1. Extracted, light amber, 7½c; amber, 7c; Florida honey, 6½@7c.

Our market continues somewhat dull in the demand for honey, while stocks are ample for the balance of the season, unless there should be a much larger demand than we at this moment anticipate. BLAKE, SCOTT & LEE.

NEW YORK, Feb. 8.—There has been very little movement of late in comb honey, and while there is no buckwheat on the market to amount to anything, there is sufficient quantity of the different grades of white honey. The demand having been slow of late, prices have had a downward tendency and are likely to remain so during the spring.

We quote: Fancy white, 14c, and exceptionally fine stock at perhaps 15c; No. 1 white at 13c; amber at 11@12c. Extracted remains dull at unchanged prices. Arrivals of late are quite plentiful of all the different grades. Beeswax firm at 28@28½c. HILDRETH & SEGELKEN.

SAN FRANCISCO, Feb. 12.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Considering the limited quantities offering there is a fair trade in progress, both for shipment and local account. Quotable values are without change, but market is moderately firm at the prevailing figures.

CONVENTION NOTICES.

Utah.—The Utah State Bee-Keepers' Association will hold its annual convention in the City and County Building, Salt Lake City, April 5, 1902, at 10 a.m. This promises to be an interesting convention. All are invited. It is desired to form an exchange for the protection and benefit of our bee-keepers. Come and aid a good cause. It is expected that every county will be represented. J. B. FAGG, Sec.
E. S. LOVESY, Pres.

New Jersey—Seveal of our progressive States have one or two bee-keepers' associations, and New Jersey should be able to place one to her credit with several hundred active bee-men. If time was ever opportune for an association, with a membership of several hundred, that time is now. The New Jersey Bee-Keepers' Association was organized January 11, 1902. The next regular meeting will take place Saturday, March 1, at the office of Mr. J. H. M. Cook, 62 Cortlandt Street, New York City. Every bee-keeper is most cordially invited to be present. It does not matter whether you own a half-dozen colonies of bees or a hundred dozen, you are welcome to join us in a cause that you know is worthy of advancement. From present indications the regular annual meeting of our Association will be held at Trenton next Fall, during the State Fair, at which place almost every person in our State who is interested in rural pursuits is generally found.
Crawford, N. J. GEORGE N. WANSER, Sec.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., FEBRUARY 27, 1902. No. 9.

Editorial.

That Libel on Comb Honey.—It is very disheartening to know that there are indications of a decline in the demand for comb honey in some of the prominent markets as a result of falsehoods for which there can be no excuse. There are, however, some encouraging features as well. There seems to be an activity on the part of bee-keepers in demanding attention to the truth that was hardly known in the years gone by when Prof. Wiley made his unfortunate false step. Possibly as a result from this, but from whatever cause, there seems a more general inclination on the part of the public press to do the fair thing by bee-keepers in the way of retracting errors and publishing truth. True, that inclination is by no means universal; but that could hardly be expected.

Among the papers that have shown a disposition to give space ungrudgingly to have wrongs righted may be mentioned two very influential journals in their respective spheres—the National Stockman and Farmer, and the American Grocer. The Stockman is a well-known authority in the agricultural world, and has published a plain and full discussion of the matter which seems to be written in as strong terms as were at the command of Dr. C. C. Miller. The American Grocer, with its prestige of years' circulation in the grocery trade, devotes half of one of its large pages to an article headed, "A Great Damage to the Grocery Trade," written by W. P. Root, the "Stenog" of Gleanings. Mr. Root indignantly denies that there was any secrecy about the production of honey, gives a cut of a comb foundation machine and a frame having foundation fastened into it, and shows that artificial comb honey can have no possible existence.

Let the good work go on, and let bee-keepers everywhere continue their efforts with the local press to have the truth placed before the public.

Improvement of Stock still holds the floor as a live topic. G. M. Doolittle discusses the matter conversationally in Gleanings in Bee-Culture, and among other things says:

A score or more years ago I began to turn my attention to this matter, and soon adopted the following plans: At the close of each honey season I struck an average of the number of pounds of surplus honey produced by the whole apiary; and then all the colonies which did not come up to this average were marked. These colonies were united, either in the fall or spring, with others, which had produced an average amount, or above, if such uniting was deemed advisable, through colonies light in bees or scarcity of honey. If all were not disposed of in this way (of course I always destroyed the poorest queen and retained the other), I superseded the inferior queens by those reared from colonies known to have produced the very largest amount.

He emphasizes the importance of keeping a careful record of each colony, and says:

Prolificness, length of life of the workers, whiteness of cappings, wintering qualities, etc., are all looked after, and all queens at all times are reared, as far as possible, from those giving the highest number of points along all these lines, and in this way any apiary can be kept steadily improving instead of holding its own or retrograding.

Insurance for Bee-Keepers is a topic of some prominence in the British Bee Journal nowadays, and enthusiasm is shown over the prospect of carrying out the scheme. The object of the scheme is for the purpose "of insuring bee-keepers against loss from damage done by their bees." That raises the question whether there is not more damage done by bees in England than in this country.

Rambler's Big Scheme.—Rambler is nothing if not a schemer, and now he has a new scheme in Gleanings in Bee-Culture, which is nothing less than the idea of getting a large amount of capital invested in bees, and the business so managed as to be largely freed from the element of uncertainty. This he thinks might be done by having the same company own bees in a number of different locations widely separated, in which case a failure in one locality might be more than balanced by a big harvest in another. One might need some study before deciding that the plan could succeed even on paper.

All Help to Raise the Standard.—It may be thought by some that those who are laboring for the improvement of their stock of bees are not at all dependent upon others, and that a few leaders working together may raise the standard for the whole country. While a single person may do much to raise the standard, if the matter is looked at in the right light it will be seen that so long as we can not control the fecundation of queens the most obscure bee-keeper in the land may have a certain degree of influence toward preventing that raising. For drones reared by him may have their evil effect upon the character of colonies two, three, or more miles away, and these again in a diminishing degree upon colonies still farther out, and so on. Is it not for the general good to have *all* interested in the work?

Changing Locations.—When one reads about localities that are paradises for bee-keepers, there is very likely to be some feeling of dissatisfaction with one's present location; but if an actual change is made it is not always an improvement. Both sides of a story are not always fully told, even if nothing but the truth is told on the one side. Here are some very sensible words spoken by J. E. Hand, in Gleanings in Bee-Culture:

There are a great number of things to be considered in changing to a new location. I have been in some of these paradises, and there are other things to be desired besides securing a large crop of honey. Many of these places are far from market; and unless bee-keepers have an organization to protect themselves, they are at the mercy of speculators who will buy their product at their own price because they cannot ship it themselves; and then most of these locations are already overstocked, and strangers will meet with anything but a hearty welcome. A good, accessible market, with a fair to poor honey-yield, is more desirable than a good crop that is practically inaccessible to market. This past season has decided that, for me, the proper solution of this problem rests in improved methods, careful management, and in developing the resources already at hand.

Improvement of Bees.—Arthur C. Miller says in the American Beekeeper:

Well, until we find some feasible way of controlling the mating of the queens there is but little we can do in the way of improvement. We can select for our propagating stock those colonies which seem to possess the greatest number of desirable qualities; we can suppress the drones of all other colonies. We can use the utmost pains and care to rear strong, vigorous drones and queens.

Some would hardly agree that doing thus much was doing "but little." At any rate, if *all* bee-keepers would only do so much as to see that their increase was made from their best stock instead of the usual way of having the most increase from those most given to swarming, it would make a very appreciable difference in the general character of stock throughout the country.

A Law Against Box-Hives is advocated in Gleanings in Bee-Culture by J. M. Hambaugh. At first glance it would appear arbitrary and unreasonable to prevent a man from keeping his bees in any kind of a hive he chose, but after reading what Mr. Hambaugh says about the difficulty of detecting disease in hives from which the frames can not be lifted, the unreasonableness does not appear so clear. He says in part:

Foul brood, black brood, and all the diseases known in the category can fester and thrive in these old non-movable-comb hives, so far as the efforts of the inspectors are concerned, from observations that can be gained in the brood-chamber, and so the non-progres-

sive, slipshod bee-keeper can thus hug an adder, not only to sting himself, but also his neighbors, who are powerless to help themselves under existing conditions.

Now, I am sure, the picture is not overdrawn, and I look upon it as an absolute necessity in behalf of the best interests of the careless bee-keeper, as well as the protection of the progressive apiarist, to enact a State law making it obligatory on each and every bee-keeper to put his bees upon movable combs, so that they may be accessible for investigation and manipulation. It would be doing no one an injustice, but instituting a righteous defense against the common enemy to the bee-keeping fraternity, and raising the industry to a higher degree of progress.

I also believe it is very essential that a law be passed compelling every one, under penalty of a fine, to obtain a certificate from a lawfully appointed inspector, certifying that his or her bees are healthy, and free from all infectious diseases, before he can be at liberty to move them from one locality to another; and when bees are imported from an adjoining State that has no laws of a like nature it should be the duty of the owner of said bees, under penalty of the law, to have, at once, said bees inspected.

The Double Cover is strongly advocated for the sake of having something warmer in winter and cooler in summer than the single-board cover, but L. O. Westcott objects, in Gleanings in Bee-Culture, that the space in the double cover furnishes too convenient a place for ants to have their nests. He says it is very annoying to have them crawl over your hands, biting like little bull-dogs. In the region of Chicago there is some trouble with double covers, but not enough to overbalance the advantages. The objection would be removed if the covers were made so tight that no ant could get in, and this would make the covers warmer in winter. Editor Root says there is made one style of double cover that is guaranteed to be ant-proof.

Super Foundation in the Brood-Chamber.—W. T. Stephenson, in Gleanings in Bee-Culture, reports success in getting brood-combs built out on thin and extra-thin foundation. This was Weed foundation. When other foundation was used it would warp and fall down after the cells were $\frac{1}{4}$ inch deep. But it requires a great deal of attention to make a success in the brood-chamber with such thin foundation, and perhaps it is economy for most of us to use the heavier. Editor Root has in mind exceedingly thin foundation with No. 40 wire incorporated in it to make it substantial.

Weekly Budget.

"A CENTER SHOT" is what Stenog in Gleanings calls the following remark in this Journal:

"The Tribune thus admits that it had room to publish lies about honey, but it has not the space to allow the truth to appear about it!"

Mr. T. B. BLOW, who formerly conducted extensive hive-works in England, and who made a visit to this country a few years ago, has married Shoko Koyake, of Kyoto, Japan, and has settled down as a good Japanese citizen. So says the British Bee Journal.

HON. E. WHITCOMB, of Saline Co., Nebr., has been spending a month in southern Louisiana. He is a member of the Board of Directors of the National Bee-Keepers' Association. Somehow he has been very quiet for a long time, keeping his apicultural "light hid under a bushel," as it were. Perhaps he needs contact with chief Geronimo and his band of Indian warriors to get him warmed up. "Uncle Whitcomb" is "right at home" with Indians and bees.

Referring to his trip to the Southland, he has this to say:

Down in Louisiana they have all the birds that we have in summer; there are plenty of oppossum and 'coon, quail, rabbits and squirrels, and the ducks are so thick that it is almost wicked to kill them—great, big canvas-backs and greenhead mallards. It may be that I did not hunt any! I returned weighing 14 pounds more than when I went, and Mrs. Whitcomb exeeeded that by several pounds. I did not see any ice while I was gone, and found on my return that the cold weather pinched me considerable, yet "There's no place like home."

MRS. J. B. AUSMUS, the wife of one our esteemed readers, died Jan. 24, 1902, being sick only about a week from pneumonia fever. She was a faithful Christian, and member of the Methodist church. These partings must come to us all sometime. No matter what any of us may think of the future, we cannot get away from the fact that the messenger Death will call at each of our doors some day. And there will be sorrowing ones left behind. Then what comfort to the bereaved ones to feel that there may be a reunion sometime, over on "the other side."

A SPANISH BEE JOURNAL, or at least a Spanish department of five and a half pages, is the latest thing in the American Bee-keeper. "H. E. Hill, Editor, El American Bee-Keeper" is easy reading; beyond that it would be easier reading if printed in English. "Abeja" seems to be frequently mentioned. If that is some Spanish bee-disease, Editor Hill would have been kinder not to have introduced it into this country.

MR. F. W. L. SLADEN VISITS DOOLITTLE.—Mr. Sladen, who made a visit to this country not long ago, is one of England's prominent bee-keepers, and the following items are clipped from an account in the British Bee Journal of his visit to Mr. G. M. Doolittle:

"He had an unusually powerful voice. His thoughts and words flowed so rapidly that I had some difficulty in keeping pace with them, and sometimes of comprehending his meaniug. He was, however, exceedingly explicit whenever I requested him to repeat anything he had said. The first thing we did was to look at his bees. Mr. Doolittle took a small piece of touchwood and, fixing it on to the end of a wire skewer, set it well alight. He then dropped it into his Corneil smoker with some more pieces of the same material, and, armed with this and two bee-hats, we sallied forth to the bees. Mr. Doolittle has about 90 colonies of bees. He uses a small, square frame, the "Gallup," measuring $11\frac{1}{4}$x$11\frac{1}{4}$, and he spaces with his fingers. For sections he seems to prefer a four-piece tall section, the size of which is $3\frac{1}{4}$ inches by $5\frac{3}{4}$ inches.

"The sections were placed in a hanging frame, and tin separators were attached to the frame. Mr. Doolittle gave me a message for British bee-keepers, which I will repeat here while I remember it. 'If you tell them nothing else from me,' he said, 'impress on them the importance of having a full force of working bees in the field *at the right time*.'

"Mr. Doolittle was most kind in explaining to me all kinds of appliances and methods; he showed me the little room where he did all his writing, the walls of which were well decorated with a large number of newspaper cuttings. The four hours or so I spent with him passed like a moment, and the sun was already getting low when he wished me good-bye."

Did not Mr. Doolittle in his modesty fail to say anything about any out-apiary to be added to the number of those 90 colonies?

MR. A. B. COOK, familiarly known as "Bert" Cook, the son of Prof. A. J. Cook, is coming into prominence in Michigan, the State in which his father was so prominent in years gone by. He has been honored with the position of president of the Michigan State Association of Farmers' Clubs.

THE LONE STAR APIARIST has made its first bow to Texas and other bee-keepers, edited by Louis Scholl. In one respect it has made a stride such as is usually made later on. It has merged into it the Southland Queen, which merging was accomplished before the first number was off the press, indeed before the first number was fully on the press. Success to the "Lone(some) Star."

MR. J. WARREN SHERMAN AND APIARY are shown on the first page this week. When sending the pictures he wrote as follows:

I send a picture of my apiary, my sisters, and my children. It is hard work to get a picture of the apiary as it is too shady. The lower picture is the apiary. The house on the right is the honey-house and house-apiary, and is used for queen-rearing exclusively; it contains 26 colonies of bees.

I commenced bee-keeping four years ago, by catching a stray swarm that came to a friend of mine, and was hived in a soap-box. I transferred them to an 8-frame Langstroth hive, and have been using that kind of a hive ever since.

My average yield of honey in 1901 was 60 pounds per colony, of comb and extracted, as I run for both.

You can see by the picture that it is rightly named, "Shady Nook Apiary," although this picture was taken in the winter.

The upper picture shows my two sisters on the right and my three daughters on the left. They are interested in bee-keeping, too. This picture shows only one hive in the background, the rest being too much in the shade.

J. WARREN SHERMAN.

MRS. E. H. STEWART, of Niagara Falls South, Ont., passed away, Feb. 8, after suffering about 4 weeks with the bursting of a blood-vessel in the brain. She was 41 years and 5 months old—just in her prime. Mrs. York and the writer met Mrs. Stewart the first time at the World's Fair convention, and liked her so well. She seemed such a good and true little woman. Then, when at the Buffalo convention, several years ago, she invited Dr. Miller and us to her little home in Ontario, after the convention. We spent the night there and in the morning she and Mr. Stewart took us to see Niagara Falls—the first time we had beheld that great wonder.

But Mrs. Stewart is gone. She was a consistent Christian, loved and beloved. Her husband and children remain to mourn her untimely death, but also to live so that when their time shall have come to leave this world, they will go to meet the "little mother" in that "Better Land."

Convention Proceedings.

(Continued from page 120.)

Report of the Colorado Bee-Keepers' Convention held in Denver, Nov. 18, 19 and 20, 1901.

BY D. W. WORKING, SEC'Y.

Advice to Beginners.

As relates to bee-culture, the world of mankind is divided into two distinct classes, between which the line of demarkation is strongly and sharply drawn. One class possesses natural qualifications that render its members capable of handling bees with both pleasure and profit. The other class is so constituted by nature that its members are foredoomed to failure, and at best would achieve but an indifferent success should they embark in the business of raising bees and producing honey. Only a few people in each community belong to the former class; while in the latter class may be reckoned the balance of the human family, comprising, by inconceivable odds, the major fraction of the race. There is no absolutely fixed rule by which these classes may be differentiated, but there are a few guide-boards that help to point the way toward probable success or failure.

This was to be a paper of advice to beginners; but I feel that it will be incomplete, and fail of its intended mission, if it is not also a paper of advice to those who ought not to begin. As the latter class far outnumbers the former, I propose to dispose of it in advance, and hang out a few danger signals that no one of ordinary comprehension can fail to interpret.

It is a mistaken idea that bee-culture is a lazy man's road to wealth and affluence. It requires hard study, hard work, and unceasing activity the year around to be successful. The same amount of capital, brains, and energy, invested in any other occupation would yield as good or better returns. If love of ease and the luxuries that gold will buy are the overmastering passions of your life, do not seek bee-culture as a means of gratifying them, as failure all around would be the inevitable result.

If you have other business that absorbs your time to such an extent that you can not devote the time and study to bee-culture necessary to conduct it along scientific lines—in other words, if you can only make it a side-issue—then most emphatically do I advise you to let it alone. While bee-culture sometimes combines profitably with horticulture, poultry culture, and other rural or semi-rural pursuits, still I believe that specialism in any one of these occupations will yield the best financial returns.

Unless you can accustom yourself to being stung, it will be useless for you to embark in the bee-business. It is possible to put on a rigging that is sting-proof, but no practical apiarist would think for a moment of working in such toggery. Stings are unavoidably of daily occurrence when working in the apiary; at least that is my experience, and one can become so accustomed to them as to become almost immune from their effects. On the other hand, a great many people suffer intolerably from even one sting. To such, apiculture offers very little inducement as an occupation, no matter how dearly they may otherwise love the work, or its results.

To revert now to the advice to beginners, I wish to preface what I may say under this heading by saying that I do not pose as a sage, or lay claim to the wisdom that will allow me to speak authoritatively upon any subject connected with bee-culture. I am only a beginner myself, in the investigation and pursuit of scientific bee-culture, and would much rather this subject had been assigned to some one riper in judgment and older in experience.

We will assume that our would-be beginner is naturally qualified for the occupation of an apiarist and is desirous of entering upon it as a life work. My first advice to you would be to procure a good text-book on bee-culture and subscribe at once for as many of the leading bee-journals as the state of your exchequer will permit. Do this right away, and study them until next spring. That will enable you to master thoroughly the theory of modern bee-keeping, queen rearing, grading and marketing honey, etc. What you now lack is the practical experience, and that is, by long odds, the biggest and hardest lesson you will have to learn. The best way to gain this experience is to apprentice yourself to some practical apiarist. Learn all that he can teach you, and when competent to manage an apiary alone you can begin to think about embarking in the business upon your own account.

On the other hand, if you desire to enter into the business at once for yourself, after having spent the winter in study and preparation, at the beginning of spring purchase not to exceed five or six colonies of bees. Be sure they are Italian bees and that they are in movable comb hives and on standard Hoffman-Langstroth frames. Read your books and journals and manage your bees according to the directions they will give you. In all cases do all the work yourself. Seek the advice, if you like, of older bee-keepers, but do not employ them to do any of the work for you. You need the experience, and you may be certain that you can not get it vicariously, or in the sweat of some other man's brow. Follow the beaten path that has led others to success. When you have made a success along that line, there will be time enough then for you to diverge in search of other and better methods.

Perhaps I should be more specific. I would advise you to produce comb honey. This year and for several years past extracted honey has ruled low in price, and the tendency is for it to go still lower. Comb honey finds a readier sale, is more profitable, and requires less work to produce. I would recommend that you use the 8-frame hive with the standard 24-pound super, using scalloped 4¼x4¼ sections. Unless you are a good mechanic and have some machine tools, it will hardly pay you to make your own hives. Better buy them anyhow for a year or two, and in all cases buy your inside hive furniture. Home made frames and section-holders are more of a nuisance than you will be able to realize until you have stocked your apiary with them.

Procure at the outset a good strain of Italian bees, or, better still, purchase them of some successful apiarist of your acquaintance, as he will be pretty apt to have good stock. Pay no attention to flaming advertisements of long-tongued queens, superior stock, etc., until you have made a success with the common stock. The so-called superior stock doubtless possesses merit, but it will not pay for you to bother with it until you have at least mastered the common branches of apiculture.

Your half-dozen colonies will increase just about as fast as it will be safe for you to enlarge your operations. One thing, especially, you must guard against is your enthusiasm. That will rise like an ocean tide at the harvest of your first crop of honey, and you will want to buy all of your neighbors' bees and then some more; but don't do it. You will reap disaster if you do. Grow into it, and you will come out all right.

And, lastly, I want to advise you, as your first duty, to join your State bee-keepers' association; and when your honey crop becomes too large to dispose of at home, join the Honey-Producers' Association and market your honey co-operatively through that channel.

I want to impress upon you the advantage and necessity of co-operating with your fellow bee-keepers in every possible way. Bee-keepers must co-operate with each other in every way that can revert to their mutual advantage, or get left. That is the naked truth of the matter, tersely stated. Co-operation is the great fact of the Twentieth Century. It is the beginning of a better, juster, and more Christian civilization. It behooves us as bee-keepers to fall in line, and thus be in accord with the spirit of the New Time.

H. C. MOREHOUSE.

Mr Devinney—It is one thing to join the Association, and another to attend. I think the attendance is more important than the joining. I object to advising beginners to start with the 8-frame hive. That size requires particular attention to make it a success.

H. Rauchfuss—Why advise beginners to buy Italian bees?

Mr. Morehuose—Because for all purposes they are the best race of bees.

H. Rauchfuss—My experience is that the Italians are the crossest bees, especially those with four or five bands. I advise Carniolans.

Mr. Lytle—I object to the advice to buy bees without regard to the stock bought. I should not want my neighbors to buy worse stock than I have. I don't want to be served

as I have been by the importation of inferior stock. It is a nuisance and a serious menace. Get an expert to buy for you. At the same time, I think a man in the business is a chump to sell good stock. Superior stock counts as much in bees as in horses and cattle.

Levi Booth—If all bee-keepers were like you, where would beginners buy?

Mr. Lytle—There are persons who make a business of selling good stock. I do not.

Mr. Gill—We have a very good strain of bees in Colorado. Many of our bee-keepers have bought queens of the best stock. Beginners would do just as well to buy at home.

F. H. C. Krueger—I think the paper an excellent one. As your stock increases, get knowledge. I commenced many years ago in a small way. I think I was the first to write to the American Bee Journal that there are sometimes two queens in a hive. Start small; feel your way along; then make a business of it. If you want to farm and take care of bees, too, you can not make it a success.

D. A. McLean—If nobody must commence the bee-business unless he makes it an entire occupation, and yet must commence with a few colonies, how is he going to live? It is not right to say no one must keep bees unless he does not make it a side-issue. Two-thirds of the members present make bees a side-issue, and yet are good bee-keepers, and I know some who make money out of it as a side-issue.

Mr. Harris—I think the paper an excellent one. We all make errors. I would say, don't rush in and think you are going to make money. Work carefully. Experiment. Then enlarge. I think we should always lend a helping hand to those starting in.

B. F. Hastings—I think it well enough to tell our ideas to those already in the business; but to have a lot more jumping into the same occupation is not good business.

W. L. Hawley—I think it is a good paper. I don't care how much book-learning you have; without practical experience it comes to nothing. The advice to beginners always ought to be, Attach yourself to a practical man.

A Good Honey-House.

With the assignment of this topic came a note saying it was desired to embrace a combined workshop and honey-house to be constructed at moderate cost. This last requirement carries limitations not always easily overcome.

If the bee-keeper is expert with tools, as all should be, one large item of cost can be saved; but if he is not, it is simply a question of cost of materials and labor. Of the materials costing the least, good adobes, well laid and plastered outside and in, furnish a thoroughly serviceable building, and in many ways desirable. Grout and concrete are also good and not very expensive to make. Still, I suppose, wood will be used in the greater number of cases, and therefore I shall speak more fully of it as a material for such purposes.

My experience does not cause me to look with much favor upon makeshifts. It is better to avoid them where possible, as they are the dearest in the long run; and few can plan out really good devices of that character. Instead, use good materials, exact workmanship, and then care well for the structure.

I will not try to outline a plan and specifications for such a building in this article, because conditions may demand variations and individuality be a controlling factor, but rather note the things which, to me, seem necessary in all such buildings.

And, first, make a good foundation, either of stone, concrete, or brick, so carefully built that not a crack or crevice remains to allow the entrance of any pest. The floor joists should be made straight or slightly crowned, and be built into the foundation wall, which should be carried up flush with the top of these joists. The upper ends of the joists should be notched to receive a 2x4 sill flush with the upper edges of these joists and the outer line of the frame-work of the building; and upon this sill erect the frame of the building. I should have this frame of 2x4 lumber, machine dressed on all sides to size, the studding spaced to receive a super easily between them. Over all secure horizontally two layers of good building-paper, the inner one smooth calendered, well lapped, and inner edges pasted down snugly. Side up with good quality drop-siding, carried up flush with top edge of rafters. Cover over the paper on rafters with sheeting, and finish roof with a good grade of shingles. No cornice is needed. The rafters will project the same as if a cornice was designed. The roof sheeting will extend over these projecting ends and at the ends of the building, giving sufficient cornice effect.

I can not impress upon you too forcibly the need of a good floor. It should be strong, firm, and of such lumber as will wear smooth, and should be covered as occasion requires with some good floor-dressing. Nothing will pay you so well as a floor that can readily be kept clean. In fact, I am convinced that where sections are cleaned or extracting done, a floor covered with sheet-metal well nailed down would be very desirable. If there is anything that to me seems more necessary than another in bee-keeping, it is cleanliness, and nothing more disgusting than the floors of some honey-houses. I would really not care to eat honey coming from such places.

I suppose you will want me to tell how much room I would want for, say, a 200-colony apiary. Well, a 12x14 foot work-room, an 8x12 foot extracting-room or section-cleaning room, and a 12x30 foot storage-room.

Of course you will have doors and windows and roof-peak ventilators screened and provided with bee-escapes to suit the needs of the building.

In presenting this paper, I do not feel that all has been said, but rather that it may be the basis of a discussion drawing forth from others the good features they have for years, perhaps, practiced. T. LYTLE.

Mr Thompson—Probably 49 out of 50 of those who build honey-houses make them too small. In this paper the dimensions given seem to be about right.

Mr. Foster—How may we get the room warm enough to keep the honey from candying?

Mr. Aikin—Those who handle large amounts of honey must protect themselves against fire. When I look at the size of the check when I have to pay insurance, it makes me feel that if I had to do it again, I should want a fire-proof house. The insurance bill would go a long way towards paying the extra cost. It is also important to facilitate labor and cut off extra labor. A few hours now and then in the course of years amounts to a large sum. The running expenses eat up the profits, not the permanent ones.

Mr. Lytle—It was required of me, in writing my paper, to describe a honey-house of moderate cost. Fire-proof structures are always very expensive.

Abnormal Swarming.

It seems to me that there is something like the irony of Fate in the fact that I have been chosen to write a paper on this subject—abnormal swarming. If there is one thing that I know less about than any other thing connected with the management of bees, I think it is how to control excessive swarming in a profitable and satisfactory manner.

Until last year I should very confidently have said that there would be no excessive swarming if bees were properly managed, and that swarming could be controlled by a proper use of half-depth Hoffman frames used with sections. Our method was to put on a super of those small extracting frames near the close of the season when we took off sections, letting the bees fill and keep them over winter. Just before alfalfa bloom, or when the bees began to get crowded, we raised the small super and put sections between it and the brood-chamber, being careful to have the queen below. The bees usually go to work at once in the sections and continue to work as long as the honey-flow continues. We seldom have more swarms than we want, and get good honey crops, while our neighbors have trouble in getting the bees started in sections and have excessive swarming as hot weather comes on.

Last year, however, was an exceptionally hot and dry season, and the honey-flow was scant and slow. The bees simply went crazy, and when I raised the extracting supers and put in the sections they just made the queen-cells on the brood in the upper story, and left without beginning on the sections at all. We began as usual, hiving swarms on starters in a new hive on the old stand, but usually the swarms would come out again the next day. Sometimes they would loaf in the hive two or three days, gnawing off the starters, but doing nothing else. Sometimes a little comb would be built, a few eggs deposited and queen-cells started, and the swarm would come out again.

We tried hiving on old combs and on full sheets of foundation, but got no better results than with starters. I exhausted my ingenuity, patience, and resources in trying to satisfy them. Near the end of the season I began killing every queen that came out the second time and giving her bees either a newly hatched queen or a frame of brood with

a good queen-cell the next day after the old queen was destroyed. This, I think, is the best plan, except for one disadvantage. I have found that in excessive swarming there is always a great deal of excitement among the bees, and that more than half of the young queens are lost before they begin to lay.

The next plan was to cage the old queen when she came out with the swarm, and keep her caged for a few days. Usually the bees will go to work when she is liberated—at least mine did—but to this day I can't say positively that caging the queen made them go to work. They may have been just ready to get over their swarming fit, and might have gone to work soon any way. I did not try that until late in the season; but if I ever have another experience like last year's I shall depend upon hiving swarms on starters on the old stand with a caged queen. In a small apiary I should kill old queens and give cells or newly-hatched queens, but in a large apiary the loss is too great, as not more than one in three of the young queens will get to laying.

We have all our bess in shade now, and believe that we shall have less trouble. My home apiary is in a nice grove, and last year when nearly all the other bees were crazy we had but little more than the usual swarming there. The apiary at the Kramer place was in sunshine most of the day, and we only had three colonies that did not swarm at all at that place, and all the rest of them swarmed from once to half a dozen times each. This year we have not had as many swarms as we wanted, but about the same amount of honey—a short crop in both cases.

I regret very much that I have so little to offer upon this subject, as I think it is a very important one, and would be pleased to help much more than I have been able to do.

MRS. A. J. BARBER.

Mr. Lytle—The paper is chiefly valuable as showing the probable reason of excessive swarming. The remedy is plainly pointed out in the same paper. My hives are covered with shade-boards, and I have no trouble with excessive swarming.

H. Rauchfuss—I do not know how to prevent excessive swarming except with a special system. Shade will not prevent it.

Mr. Gill—I want my bees out in the sun. My bees do not swarm any worse in the sun than in the shade. If you get an abnormally scant flow, bees will swarm in the shade as well as in the sun. If you give ample ventilation the bees will do as well in the sun.

J. B. Adams—Part of my home apiary is in the shade, and 50 or 60 hives are in the sun. When it gets hot, I raise the covers of these.

Mr. Aikin—Heat is an important agency in producing the swarming fever, but there are other conditions. If the conditions are such that the bees commence gathering honey and keep straight on storing it in the super, it will surprise you how little swarming there will be.

Mr. Hawley—I run for extracted honey. I had excessive swarming one year—sometimes 10 or 12 to 15 swarms in the air at one time. The following year there was a heavy flow, and two bee-yards acted differently. I can draw no conclusions.

When to Produce Extracted Honey.

One of the first things to be considered in the production of comb or extracted honey is the market. To produce comb honey profitably when the market is distant, it must be handled in car-load quantities, or the local freight rates will take up a large part of the profits. This is not so necessary with extracted honey. But for the same returns on the capital invested, extracted honey must be produced in larger quantities, which requires a larger equipment and more extensive preparation.

For instance, when comb honey ranges in price from 12 to 15 cents, and extracted from 5 to 8 cents, the producer of extracted honey must have enough more colonies and enough better averages to make up the difference in price. This requires a larger outlay of capital, more time in getting the outfit established, and the ability to run the business on a larger scale.

If there is a home demand for extracted honey, or if one can be worked up, it may be profitable to produce it on a smaller scale. Often it can be profitably combined with comb-honey production.

If the first and last flows are dark honey, it would be well to have these extracted from special combs, while the white flow could be stored in sections. In this way the extracting supers can be used to coax the bees into the supers early in the spring, and at the close of the flow put them on where sections would not be likely to be properly finished.

It seems probable that in the future, comb-honey production will surpass that of extracted honey. Imitations are so common, and the production of comb-honey is increasing so fast, that extracted honey is likely to give place largely to comb-honey as a table article. This will lead those who can produce a fine, white quality to become comb-honey producers, leaving those who produce the darker grades to supply the candy factories and bakeries.

At present, in our vicinity, it would be almost impossible to run for extracted honey profitably, on account of the prevalence of foul brood, which would be very likely to be spread broadcast over the yard by the changing of combs to different hives. A. F. FOSTER.

Mr. Lytle—The time to produce extracted honey is when it pays to produce it. When to produce it exclusively is another question. In every yard it will pay to produce a certain amount of it. I have used a section of a Heddon hive at the beginning of the season for an extracting super. It relieves the brood-chamber of the excess honey.

I have thus taken 10 or 15 pounds when the scale again showed only 5 pounds, showing that quite a quantity had been moved up from below, thus giving the queen more room to lay. Then I put on foundation for comb honey later. It is a very slight cost and a great gain. If the colony is at all weak, the same reasons hold good; it gives the queen opportunity to lay freely until the colony becomes strong enough for comb honey. Each one should determine for himself what course to pursue according to the conditions.

Mr. Krueger—I don't agree that people will more and more like comb honey better than extracted. When I began selling extracted, I had hard work to sell it. But I did sell it. If we sell the people pure, unadulterated extracted honey, they will like it better than comb honey. This year I had less than enough to supply the demand. The smallest amount I sell is half a gallon. Under my present circumstances, I would not think of selling comb honey. If I had 100 colonies, I might run 50 for extracted and 50 for comb. I don't believe extracted is used less from year to year; I believe it is used more from year to year. Extracted honey when granulated is all right, but what are you going to do with comb honey when it candies?

The Interests of Isolated Bee-Keepers.

There are many bee-keepers in this State, I suppose, who, like myself, live in localities remote from towns and railroad lines, and therefore find little opportunity to exchange ideas on bee-topics with the bee-men of their county, and who are in a measure handicapped in conducting their business, from the buying of supplies to the marketing of their crops, because of this isolation. And possibly for the reason that I am a represenative of this class it has become my privilege to state to this convention my ideas as to how our interests might be best served.

There can be little doubt that our condition admits of improvement, or that it would be improved could we but feel certain as to just what our best interests are, and then act accordingly. Most of us keep bees for profit, if not, indeed, as the sole means of income; and of course our aim is to produce large crops of honey at the least cost of production. Our next aim is to place it upon the market in such manner and at such a time as to command the very best prices at the least possible cost to us.

To accomplish these results we must endeavor to come into full possession of the latest and most approved methods of management, together with a complete understanding of what our market requires in the way of package and grading. And we must likewise seek to keep informed on the best figures obtainable, not alone on the honey which we have to sell, but also on all supplies which we may need for the season. In addition to this, we should keep our weather-eye trimmed on matters calling for legislation—such as the question of spraying, of foul-brood, of adulteration, and perhaps others, lest our indifference in this connection prove to be a source of serious consequences to us in time to come.

Such, then, are our requirements and our duties, if we are to achieve the greatest success financially; and anything which will aid us in obtaining desired information or necessary legislation must be regarded as furthering our very best interests.

Now, it will be noticed that the factors necessary to the success of isolated bee-keepers are essentially the same the State over, be it at Denver or at Grand Junction; and it

follows, therefore, that whatever affects our vital interests as bee-keepers in your section or my section will do the same in any section. In other words our interests are identical. They should be mutual. We should grasp the idea firmly, that our individual actions, isolated as we are, may affect bee-men all over the State, and that their acts in turn do even more certainly affect us. I believe the interests of isolated bee-keepers demand a general recognition of these facts. When we once learn to appreciate that we, in common with other bee-keepers of the State, have substantially the same subjects to master, the same difficulties to surmount, and the same dangers to guard against, then it will be easy to see the benefits which will come to us through organization.

Good bee-literature is undoubtedly invaluable to every one who keeps bees; but information which is elicited through the asking and answering of questions, and the exchanging of ideas upon the spot, can not be well gleaned from books or papers. Besides, knowledge so acquired usually "sticks" better than so-called book-knowledge.

Again, object-lessons, such, for instance, as the display of a lot of comb honey properly cased and graded as the market requires, would come within the province of a bee-keepers' meeting and, according to my ideas, would impart more real information on the matter of grading in one day than illustrations and descriptions could in a year. Let us not fail to consider fully the importance of the educational feature of such organization; for it must be remembered that it is at the point of production that bee-keepers will have to make their last stand when excessive demands are made upon them.

Organization offers to isolated bee-keepers possibilities of obtaining their supplies at reasonable prices. The price which we must pay for these hinges largely upon the quantity we can use. Quantity regulates the first cost, and it also determines the freight-rates. If we can order a car direct from the factory or from the manufacturer's agents, and then divide the same among us, we will be gainers thereby to the amount of at least one profit, plus reduced freight-rates. If you will take the time to figure it out, you will see that there is a considerable saving in it.

Through organization, and to my way of thinking, through that alone, can we hope to keep the price of honey somewhere near its true level. To those who have not experienced the helping influence of our State organization, I would say: Try for yourselves. Who in our ranks has not felt himself at sea regarding the market value of his product when the opportunity to sell has presented itself? Would you not have welcomed valuable information on the state of the honey crop and the honey market at such times? Or, would you not be pleased to think that your crop, together with the crops of your neighbors, could be handled for you to the very best advantage to yourselves at the least cost to each producer?

To many of us these are comparatively new ideas, and we can not be expected to lay aside our old methods at once; but this grand plan of organization will bear our careful investigation.

I have yet one other advantage to mention, which would be ours through organizing our forces thoroughly. It is in the matter of securing desirable legislation. Bee-men, like dairymen or stock-breeders, require helpful legislation. To secure the same, our legislators must be convinced by us that we actually need it, and that there are enough of us to make it worth while bothering, anyway. Should a single bee-keeper, or even a dozen, apply for the enactment of a certain law, the law in all probability would never be enacted. Should an organization of several hundred men back up the same application, we would probably receive what we asked for. If a law—let us say the law on spraying fruit-trees—is being violated, and some isolated bee-keeper enters complaint, he may or he may not make his voice heard. Very likely not. But let the organization of which he is a member take a hand in the case, and we may expect to see the wheels of justice begin to turn forthwith.

In every case where individual effort can be of avail, organized effort will effect more; and where individuals are helpless, there we may behold the power of organization. All bee-keepers need the help which a strong union is able to give, but none need it more than those who are laboring under the disadvantages of isolation.

Brethren, our interests certainly need attention. Let us take them under consideration. FRANK H. DREXEL.

Contributed Articles.

Bee-Keeping as a Business—Good Advice.

BY C. P. DADANT.

"Does bee-keeping pay as a business? and would you advise a young man to go into it as such? Where can I get a practical knowledge of the business from an experienced man? My experience is limited to the care of a few colonies on the farm.—R. M. BLACK."

It is rather an unpleasant task to give advice to a young man as to what he should do. Much of the success of an individual depends upon his aptitudes, his tastes, his education, and men are not always found in the business which is best adapted to their inclinations. Many a poor mechanic might have made a good farmer, and many an unsuccessful farmer might have made a good business man, if only his opportunities had been different. So, in the question, "Does bee-keeping pay as a business?" the aptitudes of the man must be considered. But if the question is asked, "Can bee-keeping be made to pay as a business *if properly managed?*" the answer could be given in the affirmative by many successful bee-keepers.

Our location is not a very good one for bees, and yet we have often said that the average annual yield of a colony of bees has usually been with us about 50 pounds. The last ten years would probably somewhat lower this average, which had been more than made in the ten previous years, for the past few years have been very unfortunate, owing to the almost total absence of white clover in the pastures and roadsides in this part of the country. But this conditon of affairs will certainly not last, unless there is a positive change in the climatic conditions of the Mississippi Valley, and a steady recrudescence of drouths, in which case not only the culture of bees but most other agricultural pursuits would suffer greatly.

I said that 50 pounds per colony would be a good average. This is counted as a low estimate by many apiarists living in favored regions. In many parts of Wisconsin, Michigan and New York, as well as in the new States, such as Colorado, the average of yield by colonies in the hands of progressive bee-keepers I believe to be above 50 pounds per colony. In California it is perhaps several times that amount, but the low price of honey there in good seasons would counterbalance the larger crops.

Counting on an average of 50 pounds, the net price of honey that is secured by the producers in an all-around business is certainly not less than 8 cents per pound, net of packages, cost of boxing, etc. This makes a probable profit of $4 per colony, spring count.

This estimate is taken in a general way. It is impossible to make an absolutely reliable estimate of any farm crop, and the bees are not an exception to this. But if we take the reports of wheat acreage and number of bushels reported, we will come to a very fair knowledge of the entire crop of the wheat-producing farms, and, in the same way, the product of the bee is very nearly estimated.

A practical apiarist who makes bee-culture his business can easily take care of 200 colonies of bees in producing comb honey, and of twice that number, or more, in the production of extracted honey. And if he is wide awake, and does not manufacture his own hives, and manages to take a little cheap help at the opening of the season, he may be able to teach school during the winter, for five or six months, at least, during the time when the bees are not busy. An occasional Saturday will be sufficient to keep informed as to the condition of the apiary, whether wintered in the cellar or on the summer stands.

If the man "grows" with his business, the outlay need not be very great, as the original cost of a few colonies of bees and that of the empty hives is a very unimportant capital. An industrious man will rear his own queens, and may even rear some for sale. Then he may sell a few bees, a colony here and there. The careful saving of all the broken pieces of comb, burr-combs, drone-combs, and cappings, ought very nearly to pay for what comb foundation is needed. There are very few lines of business—except perhaps chicken raising—where so few implements are needed. But poultry-raising is not to be compared to bee-culture. The fowls need constant attention. They have

to be fed daily. The bees feed themselves, except in unfortunate cases.

And yet there are many drawbacks—winter losses, spring dwindling, wet seasons. Our grandfathers used to count the bee-moth among the drawbacks. We have outgrown that. But foul-brood seems to be more prevalent than formerly, though I must say that personally I have never seen a case of it. But the worst drawback of all comes from the possible neglect, or greediness, of the apiarist. Of all lines of stock-raising none requires more careful watching than bee-culture. "Know what is to be done, and do it in time," is the most important motto of a successful apiarist.

But if you do not love to care for little things—to go into details, to watch the bees at work and keep an eye on their actions; if, above all, you are afraid of your bees, and cannot find pleasure in opening a hive full of bees and taking it to pieces for examination or for show; if you do not care to read a bee-book and get informed on the exact habits of these toilers, you would best keep out of bee-keeping.

My advice to a beginner who wants to become practical would be to go slowly. If he can find a position with a bee-keeper, who can give him a season or two of practice, this would be of great value. But such positions are hard to find. If you have to gain your information on your own responsibility, have a dozen colonies, more or less, and try to increase their numbers by following the methods most recommended in the books. A few years will give you more information on how successful you can be with bees than could be imparted in a dozen articles on the subject.

Hamilton Co., Ill.

Those Interesting Questions, Again.

BY F. GREINER.

Contributing a mite to answering the interesting questions, as on page 69, I wish to say the following:

HONEY FROM CAPPINGS.

To remove honey, which will not *run* out, from the cappings, if it is desirable to use said honey for culinary purposes, about as good a way as I know of is to place the cappings containing the honey in a can and warm the mass by gentle heat, or better by placing the can with contents inside a larger can with some water in it, and then setting both on a hot stove. The wax will melt, the honey separate and go to the bottom; the latter will be but slightly impaired as to quality.

If the cappings are run through the solar wax-extractor, as Mr. Doolittle advises, the honey gained will usually not be of good color or flavor without the solar extractor was perfectly clean, and the sheet of iron in the bottom of it is tinned. A solar wax-extractor that has been used for the purpose intended is not fit any more to produce honey for the table. It is all right for feeding or for making vinegar. If wanted for vinegar-making I would prefer to soak the cappings in warm water and wash the honey out of them. This is the way I always treat cappings after being drained. A press could probably be used to squeeze this cheese dry, but ordinary ripe honey is too thick to be squeezed out of cappings by simple pressure.

PLACING COMBS IN THE EXTRACTOR.

On account of its stickiness and heavy body, honey can not be as perfectly extracted from a comb in horizontal position as when placed in vertical position, as in our present extractors. The principle would be all right. As an illustration: Take a glass in your hand filled with water. Whirl around on your heels. The water in the glass, pressing against its side, will come up and out of it and fly away from the central shaft—a perpendicular line through the heel and the head of the operator. If a small tube was substituted, open at the bottom and small enough so adhesion and atmospheric pressure would keep the water in the tube, the operation would force the water down and out. In other words, the liquid would have to go up in one case and down in the other. It would have to go in the direction where it finds no resistance. Theoretically, a honey-comb could be emptied when placed horizontally in the extractor, as the questioner proposes. The idea of constructing extractors on this principle is not at all a new one. I think the Roots have tested it.

If it was desirable to extract the honey in its raw state, before any of it was sealed over, it might be an advantage to use that kind of an extractor. Whole supers could be placed into the extractor without loosening a wedge or touching a comb and the honey could be nearly all thrown out; it would not matter so much whether the honey did come out of the cells perfectly or not, as it would not be lost. However, this method would necessitate extracting the same supers every two, three or four days, and this would mean a great deal of work, freeing supers from bees, taking them to the honey-house and returning again so often. However, it is not desirable to extract unripe honey, and I think on this account the whole idea of constructing extractors on such a plan as the question proposes is impractical, and has no future.

CHOOSING A LOCATION FOR BEE-KEEPING.

As to choosing a location, from what I have seen and can learn, good locations for bee-keeping may be found in nearly all States. The difficulty will be to single them out without actually trying them. One cannot safely judge a location by one year's test, either. My home yard, for instance, gave me, in 1881, nearly 100 pounds of surplus comb-honey; in 1885 about 70 pounds. During the rest of the years the crop has seldom averaged over 30 pounds in a single year, and many a time only half of that. One would have been badly fooled to judge my location by the years 1881 and 1885; and if he had pitched his tent here, depending on bee-keeping for a living, he would not have much money in his pocket.

On the other hand, if he should have hit such a location as Mr. Doolittle has, or if he had his ability to make the bees "shell out" the honey like Doolittle's bees have done, he would not know what to do with all the money. He would have to be very liberal and extravagant indeed to spend it.

To illustrate further how difficult it is to select a good location, I want to say: My two out yards within 5 miles of my home yard—one of them lies in the same valley as home yard—average nearly double what the latter does (and put me in a position at least to live); I cannot understand why the yields in these out yards are so much higher, for the flora seems to be the same in all of them.

In Colorado and some other States it might be easier to select a location without making a mistake.

Ontario Co., N. Y.

The Mating of Queens in Confinement.

BY W. E. FLOWER.

I wish the bee-papers would devote a little more space to the matter of mating queens in confinement, as I firmly believe it to be the keynote to the whole problem of successful breeding of bees. It is useless to talk about breeding horses, cattle, sheep, swine, dogs and all other "mammals" in which the fœtus is developed within the dam. Principles or rules which apply to them do not, cannot, and will not, apply to the hen or to the honey-bee, for the simple reason that there is no union of circulation between the egg and the hen. The egg is hermetically sealed and passes out, and the first pulsation in the heart of the chicken may take place a hundred miles away from the hen.

The same may be said of the bee—there is no union of circulation between the queen and the egg, but some rules that apply to the hen do not apply to the bee. A virgin pullet will lay, but her eggs will not hatch; a virgin queen will lay, and her eggs will hatch, but produce drones only; and in my humble opinion (mind I don't make the assertion, simply give it as my opinion), if these drones can be utilized they are destined to become a very potent factor in producing a strain of bees that will "git up an git," and gather in the honey. Parthenogenisis exists in the bee but not in horses, cattle, sheep, swine or poultry, hence it is a factor that must be taken into account when mating queens for certain results.

I have had nearly 40 years' experience in breeding thoroughbred fowls, and have had some prize-winners in years gone by. I believe in inbreeding to fix points and characteristics or types, and in careful and judicious selection of strong, healthy, vigorous breeding-stock to maintain vigor and stamina of the breed. Darwin says that the "progeny of a first cross always reverts to one or the other of the original ancestors;" hence when we introduce new blood into a strain of fowls we run the risk of getting a lot of scrubs, because all the faults that have existed in the parent stock

on both sides for generations past are bound to crop out in their progeny.

I believe this to be the case with bees, hence I want to to be able to control the mating of my queens so that I may be able to practice inbreeding, and prevent undesirable crosses.

Some one once asked Abraham Lincoln how long a man's legs ought to be, and he replied, "They ought to be long enough to reach from his body to the ground." I don't take much stock in long-tongued bees; might as well choose a long-tongued woman for a good housekeeper.

Montgomery Co., Pa.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

THE COMPLETED SCORE-CARD.

The completed score-card on page 24 *still might* provoke objections on one or more points. I think there is sometimes seen bark-louse honey, too nauseous of flavor to be eaten at all, that would score high according to the card, if not actually take 100. No place in the whole eight items where good or bad taste could come in! Still, this blemish is more apparent than real. Honey that isn't *good*, very seldom gets offered for a prize. Very likely it's the best way practically not to require judges to cut into sections.

HONEY-VINEGAR VS. OTHER "VINEGARS."

Between the vile competition of "cost-nothing" pyroligneous acid and the honest competition of cider-vinegar, honey-vinegar droops, it seems. Rough in me to kick it when it's down—but truth and death seem to have scant respect for Marquis of Queensbury rules.

"The liquid thus obtained will not appear very clean." Page 25.

Yes, indeed; me believes *us*. Twentieth century will hardly get out before it will find the public saying they don't want to eat vinegar made from such dirty slop. May be the going-to-be puhlic and myself are fussy. But say, melt the cappings, lift off the resulting cake (to be melted over again of course—for you'll be astonished to see how dirty it is) and use the black honey below for bee-feed. If you want honey-vinegar, take some clean, sound honey and make it.

KILLING YOUNG SWEET CLOVER.

Interesting to see that cutting, followed by a dry spell, does sometimes kill young sweet clover. Alas, that that "sometimes" fails so seldom when I want it to die in my strawberry patch!

OPTIMISM PROF. COOK'S "ISM."

Prof. Cook, you hardly needed to tell us that optimism was your "ism." I wonder if you have sufficiently meditated the evil of optimism right or wrong—always—through thick and thin. Pardon the suggestion. How sorely the world needs a few more persons who are neither optimists nor pessimists, but capable of seeing with clear, uncolored eyes both modest good and sneaking evil! Between the pull and the haul of the optimist and the pessimist it seems at times as if all mankind were being divided into two self-neutralizing parties. Nothing so bad but half mankind will excuse it; and nothing so good but t'other half will condemn it. O that young students, and young people everywhere who are in the formative period of life, might realize the importance of not making themselves *partisans* in this important matter! But we won't call Prof. Cook a *professional* optimist, eternally proud of his profession—not unless he commands us to. Page 27.

MELTOSE AND ITS MAKERS.

How pleasant it is (though oft a bit humiliating) to find people very much more reasonable than we smelt them to be! This anent meltose and its makers. Not the "cunning little feet" that gathered honey but the "cunning little thief." The words which stirred our dander were partly inadvertent, and the firm are willing to them. Do us no harm to be civil on our side. On careful and repeated tastings of meltose—while not falling head and ears in love with it—I gave up a previous bad opinion. Had guessed it was best commercial glucose sweetened up with something. It appears to be a thing of itself, and tolerably good. Presumably safe for invalids, which honey usually is, but sometimes is not. Not seductive enough, either in look or taste, to travel very far outside of the clientage of the health-food establishments—and so not likely to do us any harm whatever. Pages 28 and 67.

FEEDING BEES IN THE OPEN AIR.

If you wanted to feed 100 colonies in the open air the chances are you would be "all at sea" about the minimum of feeding space required. Glad to see so competent authority as the Atchleys on record that 10 feet by 18 inches will do. Page 31.

THE QUEEN'S STING AND THE LAMB'S TAIL.

Mr. B. Hamlin-Harris, if the queen facilitates laying, by reciprocating her sting, may not the waggling of the lamb's tail facilitate getting the milk? Page 35.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Moving Bees 20 Miles.

1. How can I move my bees 20 miles over a rough country road? I want them to be in their new home the first of June. The road is quite rough, and over three mountains. Can I haul them on a wagon on boards?

2. I would like to take them as early as I can. When is the best time, in warm or cold weather? Will it be safe to move them in this way? WEST VIRGINIA.

ANSWERS—1. Yes, fasten them in place so they cannot slide around, and they can be safely taken. Look up back numbers of this journal, especially within the past few weeks, and you will find some information on the subject.

2. In the spring, when it is neither too hot nor too cold, is the best time. If the weather is freezing, the combs are brittle and will break in hauling. If too warm there is danger of the bees smothering, and if ventilation is lacking the combs may be broken down because too soft.

Moved Bees Uneasy in the Cellar.

What should I do with my bees? I have had them in the cellar about 30 days, they having been expressed 120 miles by train. The temperature of the cellar is 38 degrees inside, and about 5 outside. The bees do not seem to rest easy, flying and crawling continually. The hives have a solid board on the bottom, and I have lifted the board a little on the top. I have the cellar perfectly dark, and the hives on 2x4 planks, and about 2 feet off the ground. There are about 200 dead bees lying around. ILLINOIS.

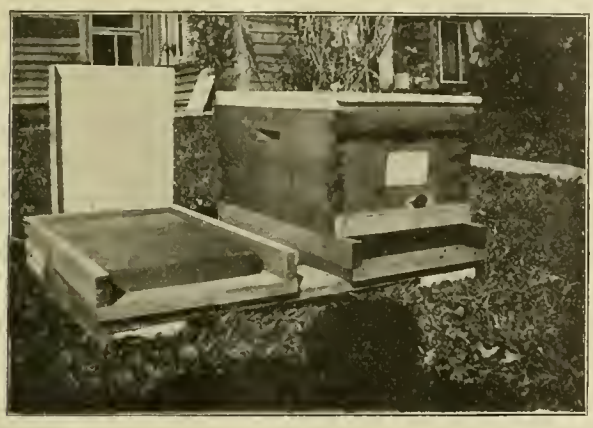
ANSWER.—It was expecting a good deal from the bees to give them a ride of 120 miles in the middle of winter, to put them directly in the cellar without flight, and then ask them to be good. The 200 dead bees in 30 days is a very small number if there are 50 colonies, and nothing to be alarmed about if there were only 200. I'm afraid there may be more dead bees on the floor of the hive. The thing for you to do is to do what you can in the matter of temperature and ventilation. If your thermometer is at all reliable, your cellar is too cold. If there are colonies enough to make it worth while, a coal-stove would be the thing to raise the temperature to 50 degrees or more, and then let it settle and stay at about 45 degrees. But don't use an oil-stove with nothing in the way of a chimney to carry out the smoke or gas. If you have only two or three colonies, you can help matters at least a little by taking into the cellar hot stones or jugs of boiling hot water *corked tight*. You can lay hot bricks on the covers of hives, or you can remove the covers and put old carpets or cloths of any kind over the

frames and then hot bricks on these. As to ventilation, it may be that it is all right, and it may not. If the air of the cellar smells foul and close, try to clear it up. Remove decaying vegetables if any are present. Open the inside door and let the air from upstairs go into the cellar. If you cannot do this in daylight because of the bees coming up, do it at night. It may be that opening an inside door will do all that is needed to bring up the temperature.

The Dr. Miller Hive Bottom-Board.

On page 70, Mr. Doolittle describes the Dr. Miller bottom-board, but his discription hardly tallies with the picture there given. Which is right? And how is the bottom-board made?
SUBSCRIBER.

ANSWER.—Mr. Doolittle is usually very careful to make no incorrect statements, and the present case is no exception. Mr. Doolittle describes the bottom-board as I used it for years, and it is no little gratification to me to know that a man of such experience and judgment has given it his approval. The reversible feature was the valuable thing about it, allowing a deep space in winter and as hallow one in summer. The reversing necessitated lifting the hive every time, which I consider a small cost for the advantage. But I thought it would be better if I could change to the shallower space in summer



without the lifting. So I devised a false bottom to fill up the space in summer, making the expense more and the labor less.

In the picture you see at the left a bottom-board with the false bottom in it, ready for summer use. For winter all that is necessary is to slide out the false bottom, and you have the space two inches deep. Back of this bottom-board, standing up, is another false bottom, showing the under side, but the light upon it was so strong that at the right hand side there is nothing clearly defined about it.

Now, as to the making: The bottom board is a plain box 2 inches deep, and open at one end. It is made of six pieces of ⅞ stuff; two pieces 22½x2, one piece 12⅛x2, and three pieces 13⅞x7½. The outside dimensions of the false bottom are 18¼x11x1½. It is constructed of two pieces 18¼x1¼x½, one piece 10x1¼x½, and two pieces 11x9⅛x¼. You see, it is made on the same general plan as the bottom-board, only smaller and much lighter. When in use, the closed end of the false bottom is toward the entrance.

While talking about the picture I may as well tell you a little more about it. The hive that you see has its entrance closed ready for hauling. A piece of wirecloth folded over the ends and bottom is placed against the entrance and held there by a piece of lath with a nail at each end, and usually another nail in the middle driven through the lath into the front of the hive. The stand on which the hive is placed carries double and is a very simple affair. It is made of common fence-boards 6 inches wide. Two pieces 32 inches long are nailed upon two other pieces or cleats 24 inches long. That's all. Of course the longer pieces are uppermost.

Sticking Comb to Separators—8 or 10 Frames.

1. I had some trouble about the bees sticking honey to the slat separators. What is the reason? I believe I left it on too long; still, that ought not to make much difference, or else they did not have room to store it.

2. Which do you think will be the best to use, the 10-frame or the 8-frame hive? Of course there will be more bees and larger swarms in the 10-frame, and it will take more to feed them through the winter, but I thought they would winter better, the larger body together. What is your experience?
INDIANA.

ANSWERS.—1. Being too much crowded may have caused the bees to build the sections to the separators. Sometimes, however, they do it without being too much crowded, and I hardly know why.

2. Your own experience in the matter is a great deal, and if you found 10-frame hives best, stick to them. They certainly do not require so close watching for safe wintering as do the 8-frame hives.

New Swarm Rearing a Queen.

When a colony swarms, if I catch the queen and kill her, and give the swarm a frame of young brood and eggs from a select queen, will they rear a queen? ILLINOIS.

ANSWER.—I don't know. If you should kill the queen immediately upon hiving the swarm or before hiving it, there would be a probability that the swarm would desert the brood and return to the old hive. If it was a second swarm there might be more than one queen. If, however, you should wait perhaps 24 hours before removing the queen, you would have a pretty sure thing of it. But if you try the plan it is not very likely you will follow it up, for the colony will be badly reduced before any new "fielders" appear on the scene.

Preparing Bees for Moving, Etc.

1. My brother and I have 65 colonies to move about the first of March. We would like to have your advice as to the best way to prepare them to move.

We will move them to northeast Missouri. Is that a good country for bees? IOWA.

ANSWERS.—1. Specific instructions for preparation can hardly be given without knowing just what kind of hives you have. You will, however, besides the information you can get in your text-book, get some instructions from answers given in this department in late numbers. It may be repeated here, that the chief thing is to have the bees securely fastened in, the hives with provision for abundant ventilation, by having top of the hive covered with wire-cloth or otherwise, and then to have the hives firmly fastened so they cannot move about in hauling, with the frames running parallel with the rails on a railroad, and parallel with the axles on a wagon.

2. I don't know about the particular localities in that region.

Filling T Supers with Sections.

I see you speak of filling supers with empty sections and then putting in the T tins. I fasten the T tins to the bottom of the super. Is that the best way? OHIO.

ANSWER.—I prefer to have the T tins loose, for the sake of having it easier to take out the sections. The super is reversed and the contents pushed out, T tins and all. Then it is an easy thing to lift the tins from their places, after which the sections can be separated. But "filling supers and then putting in the T tins" hardly gives the right impression, for it might be understood that the 24 sections were put in the super and then the T tins were put in, which would be impossible. The first row of sections is put in one end of the super, then a T tin is slipped under this first row of sections, and a T tin is in like manner put under the second and third row. In filling the super it is not left on an exactly flat surface, but little strips are nailed to the surface in such a way as to raise the sections an eighth or a quarter of an inch, which gives plenty of room to slip the T tin under the sections. Then when the super is lifted from the board the sections settle down in their places.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Our New Catalog, describing and listing the finest line of BEE-KEEPERS' SUPPLIES in the world, is ready. If you have not been receiving a copy annually, send us your name and address and one will be mailed you FREE

G. B. LEWIS COMPANY, Watertown, Wis.

Special Agency, C. M. Scott & Co., 1004 East Washington St., Indianapolis, Ind.

AGENCIES: L. C. Woodman, Grand Rapids, Mich.; Fred W. Muth & Co., S.W. Cor. Walnut and Front Sts., Cincinnati, Ohio; Fred Foulger & Sons, Ogden, Utah; Colorado Honey-Producers' Association, Denver, Colo.; Grand Junction Fruit-Growers' Association, Grand Junction, Colo.; Robert Halley, Montrose, Colo.; Pierce Seed & Produce Co., Pueblo, Colo.; E. T. Abbott, St. Joseph, Mo., Special Southwestern Agent; Chas. Dadant & Son, Hamilton, Ill.; F. C. Erkel, 515 1st Ave., N.E., Minneapolis, Minn.; Lilly, Bogardus & Co., Seattle, Wash.

Please mention Bee Journal when writing.

27 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 27 cents a pound—CASH—for best yellow, upon its receipt, or 29 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

GOOD SEEDS CHEAP

BEST in the world. None better, and none lower price. Great Big Catalogue FREE. Nice big Pictures of every variety. Seeds 1c. per pack'g & up. A big lot of extra pack'gs; new sorts presented FREE with every order. Buy direct from the Grower to get Good Seed. Send for big FREE BOOK.

R. H. SHUMWAY
ROCKFORD, ILL.

CYPHERS INCUBATOR

World's Standard Hatcher.

Used on 26 Gov. Experiment Stations, in U. S., Canada, Australia and New Zealand; also by America's leading poultrymen and thousands of others. Guaranteed to give satisfaction or price refunded. The Original and **Only Genuine Non-Moisture Incubator,** fully covered by patent. Gold Medal and highest award at Pan-American, October, 1901. Illustrated 16-page circular free. Complete Catalogue, 180 pages, 8x11 inches, mailed for 10 cents. Ask nearest office for book No. 50

CYPHERS INCUBATOR COMPANY,
Buffalo, N.Y., Chicago, Ill., Boston, Mass., New York, N.Y.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.

7A26t Please mention Bee Journal when writing

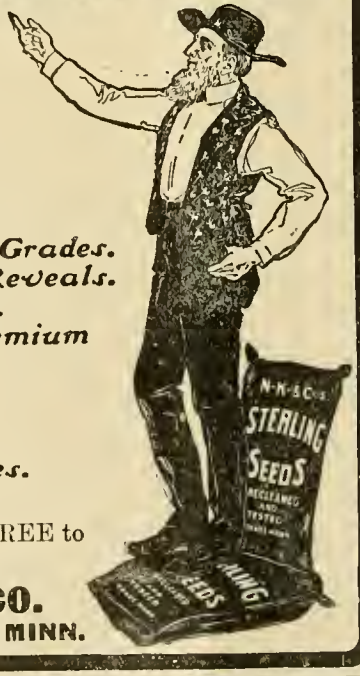
NORTHERN GROWN SEEDS

The following are a few of the many features in our new Seed Catalogue which should interest you:

Perfected Farm Seeds.
Corn Insurance.
The Plain Truth about Grades.
What the Microscope Reveals.
Our Methods Approved.
Extraordinary Free Premium Offers, etc.

You will also find in it:

No Exaggeration.
Most Reasonable Prices.
The Best Seeds.



We mail our large CATALOGUE FREE to Seed Buyers. Write to-day.

NORTHRUP, KING & CO.
Seed Growers. MINNEAPOLIS, MINN.

Please Mention the Bee Journal when writing Advertisers *****

GENERAL ITEMS

Bees Wintering Nicely.

I have 85 colonies of bees, and put them in the winter house Nov. 27; they were in good condition. I think they are wintering nicely. I got about ¼ of a crop of honey last season.

Scott Co., Iowa, Feb. 7. E. R. WRIGHT.

A Profitable Pleasure.

I keep only a few colonies of bees, more for pleasure than anything else, and to pay me for the good time I had with them last summer they gave me 1,000 pounds of fine honey (comb and extracted). This was from 13 colonies, spring count, with an increase to 22, that are now in the cellar in good condition.

The American Bee Journal is all right, and I am not afraid to promise that as long as I keep bees I will have the Bee Journal also, because I am sure I could not get along without it and keep bees. So you can be sure it is a welcome visitor to me every time.

C. E. LEMON.

Chisago Co., Minn., Feb. 7.

For the Type-Setting Machine.

Here goes a dollar for 1902, and as soon as that type-setting machine is ready I will send another, or more, if needed.

It is a blank proposition, and, commencing at the "Foote" of the ladder, let us, like the Irishman, average up until the machine is a reality. Brother bee-keepers, the bugle sounds. Fall in line! GEO. FERGUSON.

Rock Island Co., Ill.

Bee Books and Papers.

The advice to the bee-keeper who cannot afford to buy a text-book and at the same time subscribe for a bee-paper (page 83) is all wrong, in my experience. I have read all the apiarian text-books published in America, and, if I had to do without all the text-books, or have one bee-paper, I would take the paper; but I would want to select the paper.

A bee-keeper who cannot afford one good book, and a bee-paper besides, is indeed a very poor bee-keeper in more ways than one.

M. D. ANDES.

Sullivan Co., Tenn., Feb. 7.

An Experience with Bees.

My bees did fairly well last season, 20 colonies averaging about 40 pounds each, all housed in winter-cases with 35 pounds of stores each.

For the past 4 years I have been quite studious in bee-keeping, reading text-books and bee-papers as well.

Though unlike most others in the beginning, it was not the love I had for the bees—more selfish, perhaps. Four years ago I visited my brother John, living in Maryland. I was suffering terribly with rheumatism, and had been suffering for years with paralysis in my right leg. Well, I complained so much my brother said (laughingly), get some bees. Speaking more seriously, I concluded it could do no harm, if I could endure the stings. "Well," said he, "there is something to learn about bees that you may not enjoy—bee-culture has recently become a science; you

"ALL RIGHT" Little Sixty at $8.00

This means that we ship anywhere our 60 Egg Copper Tank "All Right" Incubator on FORTY DAYS FREE TRIAL and charge $8.00 for it only when the customer is satisfied. Absolutely the best 60 egg machine on the market at any price. Send for our free poultry book, "All Right." (Western orders shipped from Des Moines, Ia.

CLAY PHELPS INCUBATOR CO., STATION 6, CINCINNATI, O.

Please mention Bee Journal when writing.

Burlington Route

Every day during March and April we shall sell

Cheap Tickets To The Northwest

Montana, Utah, Idaho, Oregon, Washington and N.W.Wyoming

Our fast train service from Chicago to St. Paul, Billings, Mont., and Denver, and our system of Reclining Chair Cars (seats free) and Tourist Sleeping Cars—only $6 for a double berth Chicago to Pacific Coast—in addition to the regular Pullman cars, makes the Burlington Route the most comfortable and convenient way to the Northwest. Ask you nearest ticket agent about it or write me for a folder giving particulars.

P. S. EUSTIS, Gen'l Pass'r Agent C. B. & Q. Ry. Chicago.

116

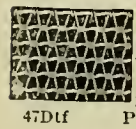
Please mention Bee Journal when writing.

GREIDER'S FINE CATALOGUE of prize winning poultry for 1902, printed in colors, illustrates and describes 50 Varieties of Poultry; gives reasonable prices of eggs and stock. Many hints to poultry raisers. Send 10c in silver or stamps for this noted book. B. H. GREIDER, Florin, Pa.

51D8t Mention the American Bee Journal.

Poultry Paper.—3 months' trial subscription and book, "Plans for Poultry Houses," 10 cents. INLAND POULTRY JOURNAL, Indianapolis, Ind.

29Dtf Please mention the Bee Journal.



FENCE! STRONGEST MADE. Bull-strong. Chicken-tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO., Box 89 Winchester, Indiana, U. S. A.

47Dtf Please mention the Bee Journal.

Wanted Comb and Extracted Honey! State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

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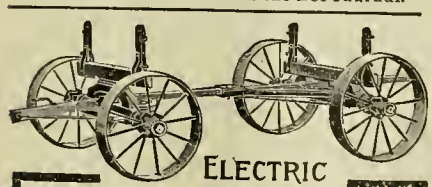


ELECTRIC

Handy Farm Wagons

make the work easier for both the man and team. The tires being wide they do not cut into the ground; the labor of loading is reduced many times, because of the short lift. They are equipped with our famous Electric Steel Wheels, either straight or stagger spokes. Wheels any height from 24 to 60 inches. White hickory axles, steel hounds. Guaranteed to carry 4000 lbs. Why not get started right by putting in one of these wagons. We make our steel wheels to fit any wagon. Write for the catalog. It is free.

ELECTRIC WHEEL CO., BOX 16, QUINCY, ILL.

must read and think, to become proficient." He reached up and took down an old, greasy "Manual" written by Prof. A. J. Cook in 1876. He then handed me another "Manual of the Apiary," scientific. Well, that called me back to when I was persuaded by our old medicine man to study medicine. I was in my sixth year, the Doctor was 56; he searched around and found an old Comley's spelling book, and turned to the word "baker." I could only master one syllable. He said, "My good boy, you will make a doctor but you must follow instructions." In the past four years I have been following instructions pretty well; however, with the hundreds of stings received I have become immune to the sting.

I want to say right here that I believe that one man can handle bees as well as another (all things being equal) or, in other words, I do not think bees know their keeper from any other person. I have frequent demonstrations to convince me of that fact. You must know your bees, and not your bees know you; there is no mystery about that.

Every farmer could keep 2 or more colonies profitably in frame hives; box-hives and black bees will soon be a thing of the past. I have the 8-frame Simplicity hive, and Italian bees. I hope soon to present you with a picture of my apiary.

I desire to say, briefly, that since I have been so infatuated with apiculture, the fever has raged so incessantly that it has crowded out all symptoms of rheumatism. Now, I do not want to be misunderstood; I do not say it was bee-stings or enthusiasm; I do say it must have been one or the other.

Daviess Co., Ky., Jan. 4. J. M. HALL.

Report of the Past Season.

The honey crop from my bees last season was far from promising on white clover, and a total failure on sweet clover and buckwheat. I got only 600 pounds of salable honey from 35 colonies. We will hope for a better crop this year. CHAS. LUEBKE.

Rock Co., Wis., Feb. 3.

Snow-Storm in New York.

We are having a terrible snow-storm to-day; the roads will be impassible to-morrow, I expect. Our bees in the cellar seem to be in good shape.

The State (N. Y.) Bee-Keepers' society is to meet tomorrow, but I don't see any way of getting to Geneva, only 30 miles away, so I will have to stay at home. F. GREINER.

Ontario Co., N. Y., Feb. 2.

P. S.—The snow-storm raging Sunday continued until Monday night. Our roads are blockaded; we received no mail, and none went out.

Wintering All Right.

We have had very cold weather the last month, but the bees are wintering all right, as far as I have been able to tell. I have been experimenting some with out-of-door wintering, and they are all right yet.

I cannot get along with my bees without the "Old Reliable:" I read it every week.

A. W. ATKERSON.

Jasper Co., Mo., Feb. 8.

Wintering Well—A Good Swarm.

The bees are, as usual, wintering comfortably on their summer-stands. Since the introduction of the tight-frame hive into the apiary, uniform success and most gratifying results have been obtained.

The honey-yield last season was abundant. I had one prime swarm, which issued from a 32-frame hive. It was hived on 16 frames, a number of which were wired, and had the least sign of a starter. Those that the bees wanted for brood they built up with worker-cells, but those they reserved for honey they built up in drone-cells; a super was also added at the same time, which they filled in about

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

30 DAYS FREE TRIAL

You do not know what you can do with an Incubator until you try it. Here is a $10 **HAWKEYE INCUBATOR** which we send on thirty days' free trial. It has all our late improvements, three walls, patent copper pipe heating system, safety lamp, nursery, perfect regulator, etc. Catalogue free. Send 10c for book and a year's subscription to leading poultry paper.

Hawkeye Incubator Co. Box 17, Newton, Iowa.

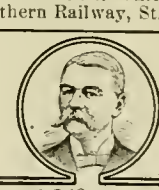
Please mention Bee Journal when writing.

Low Rates to the Northwest.—Beginning March 1st, and every day thereafter during the months of March and April, 1902, the Great Northern Railway will sell one-way second-class settlers' tickets at very low rates to almost all points on its main line west of St. Paul and Minneapolis. Low rates will also be made in connection with the Great Northern, from Chicago.

The rate from St. Paul, Minneapolis and other Eastern terminals, to Montana points is from $15 to $20; to points in Washington, $22.50 to $25. The rates from Chicago to Montana points is from $25 to $30, and the highest rate to points in Washington is $33. Equally low rates will be made to other stations reached by the Great Northern Railway and its connections.

The journey must begin on the day of sale of ticket, and tickets will be good for stop-over ten days or less at points on the Great Northern Railway west of and including Harve, Mont.

This is the best opportunity that has ever been offered to parties who wish to investigate the many advantages offered them in the great Northwest. Information about Great Northern country is given by the Ageat of Great Northern Railway, or those desirous of ascertaining just what opportunities are offered there can secure full information in reference to land, climate, crops, etc., by writing to Max Bass, G. I. A., 220 S. Clark St., Chicago, or to F. I. Whitney, G. P. & T. A. Great Northern Railway, St. Paul, Minn.



J.R. Watkins

THIS IS J. R. WATKINS,

the president and founder of the J. R. Watkins Medical Company, Winona, Minn., U. S. A., the proprietors of the world famous

Watkins' Remedies.

You will find this picture of Mr. Watkins and his signature as above on every label, wrapper, cartoon and package of Watkins' Remedies. It is the trade mark—the stamp which marks the genuine from the spurious and worthless. Some unscrupulous men will attempt to sell you other preparations for the genuine Watkins' Remedies. They will declare that others, which they are trying to sell, are "just as good" as Watkins' Remedies. In order that you may not be deceived we put on the picture and this signature to protect you from fraud. Always insist upon the genuine, with the portrait and signature of J. R. Watkins, as above. Take no others, for no others are so good as the original and only Watkins' Remedies.

Free! Free! Free!

We mail free to any address "Watkins' Home Doctor," an illustrated book of 100 pages, the finest of the kind ever printed, containing much valuable information, interesting, instructive and humorous reading matter, astronomical calculations, weather forecasts, first-class cooking recipes, and matter relating to farm and home; in short, something for every member of the family, old or young.

The J. R. Watkins Medical Co., 10 Liberty St., Winona, Minn., U. S. A.

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A REMINDER.

Time to buy that carriage or buggy. We make a full line and sell direct on **30 Days' Free Trial.**

We save you dealer and jobber profits. **Enough said.** Write for 92nd annual catalog. Mailed free.

Kalamazoo Carriage & Harness Mfg. Co., Station 33, Kalamazoo, Mich.

Pioneers of the Free Trial Plan.

Please mention Bee Journal when writing.

ITALIAN QUEENS and the WARFIELD STRAWBERRY ...

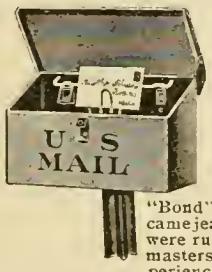
D. J. BLOCHER, Pearl City, Ill.

Ask for our price-list and testimonials.

As we are spending the winter in North Dakota, all our correspondence, whether social or business (until further notice) should be addressed,

D. J. BLOCHER, Denbeigh, N. Dak.

4Atf Please mention the Bee Journal.



Gets there just the same.

In the beginning Rural carriers were allowed to sell boxes to patrons. So many of them fell in love with the "Bond" other makers became jealous, and carriers were ruled off. Then postmasters had the same experience, met the same fate, and now we have committees selected by patrons. These committees usually are unanimous for "Uncle Sam's Favorite," as its fame has spread over the land. Write us.

BOND STEEL POST CO., ADRIAN, MICH.

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SPRAYING

with the "incomparable"

BORDEAUX NOZZLE

and our world's best outfit you are absolute master of the situation. Insects and disease fall before this all conquering outfit. See the book. It is free. Write for it now.

THE DEMING CO., SALEM, OHIO.

Western Agts., Henion & Hubbell, Chicago.

49A13t Please mention the Bee Journal.

PAGE

EXCUSE US, BUT

don't you find The PAGE a splendid farm fence?

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing.

Almost a Lifetime—If one were to count the manufacturers who have been in business continuously for a generation they would be found comparatively few in number, and yet among them would be that old and well known house, the Elkhart Carriage & Harness Manufacturing Company, of Elkhart, Ind., whose ad appears in this issue. This concern has been in business for twenty-nine years and during all that time has been selling direct to the consumer at lower prices than many factories charge dealers. The great saving effected by dealing with this advertiser is at once apparent. Their line of vehicles and harness is larger than ever. It embraces many patterns shown at the Pan-American Exposition, where the Elkhart people not only exhibited against some factories noted for their high prices but carried off honors, too. Their new catalog presents the complete line, and a copy will be sent free to any one who mentions this paper in writing. Address, Elkhart Carriage & Harness Manufacturing Company, Elkhart, Ind., and please mention the American Bee Journal when writing.

three days. What seems to be noteworthy about this swarm is, that the queen was reared late in the fall, in an observation hive in which she passed the winter on the summer stand. The hive was wrapped in a heavy woolen blanket, but they breathed the air as it came along, which was at times about 20 degrees below zero. However, they came through the winter in good shape, but were set out under the trees too early, and many died from the effects of cold, as the space between the glass was only 1¼ inches, and the height sufficient to admit three frames.

Wishing to give this young queen a fair chance, I put her together with her bees and brood, into a hive, and added 13 frames containing some stores, and set this hive in the place of another. Being thus encouraged and assisted by the additional force of field-bees, she was able, some time in July, to lead out the large swarm as above noted.

B. J. CHRYSOSTOM.

St. Joseph Co., Ind., Jan. 17.

A Report—Golden Italians.

The bee season of the past summer was very good here, the bees doing very well. Mine averaged 40 pounds to the colony. The honey was as clear as any I ever saw. I took some off that I could hold up to the light and see clear through it. I could put my hand a little way off on the other side of a section and could look through and see it. The honey has a fine body to it. I left it on the hives, and that was what gave it the body; it was "boiled down" more.

I have transferred a good many bees for other people, besides my own, and I have come across all kinds of gums and boxes, of all sizes and shapes, and my experience is that the 10-frame would be better.

I have tried the golden Italians but they do not winter well, as far as I know anything about them; and in view of what others say who have tried them, they do not stand the winter as well as the hybrids.

I enjoy reading in the Journal what people in other States have to say about bees and the honey crop. CHARLES ELLIS.

Newton Co., Ind., Jan. 28.

Winter in Texas.

My bees are all doing well so far this winter, and I hope all will come out "right side up" in the spring.

We have been having some of the coldest and most disagreeable weather the past two weeks that I have ever seen in Texas, and I have been here 32 years.

R. P. Davies, M. D.

Lamar Co., Texas, Feb. 9.

Condition of Bees in Winter.

We are having a pretty steady, cold winter here this time, with frequent, high winds which often drift too much of the "beautiful" into my apiary and causes me to have to clear the snow away from the hive-entrances of all colonies oftener than I have had to do in other winters.

Bees keep quiter, remain clustered longer, consume less stores, and come into spring in much better condition when the snow is kept away from the hive-entrance of every colony in winter.

I tipped up the front of every hive on Feb. 6, and brushed off the few dead bees that were on the bottom-boards, and never found so few dead bees under the hive at this date. With division-boards I crowded the bees of every colony on from 5 to 6 combs of capped stores of the best quality, and then packed 4 inches of forest leaves at the sides, front, back and top, the same as I have done for many years. WM. MCEVOY.

Ontario, Canada, Feb. 10.

Bees Can Hear—Illustration.

In the Bee Journal of Jan. 16, page 42, I see the question, "Can bees hear?" Now, I think they can. About 36 years ago I started in the bee-business in Thisted, Denmark. I had the German and Scandinavian bee-papers,

HEADQUARTERS

—FOR—

Bee-Supplies.

ROOT'S GOODS AT THEIR FACTORY PRICES.

Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand.
The freights from Cincinnati are the lowest.
Prompt service is what I practice. Satisfaction guaranteed.
Catalog mailed free—send for same.
The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.
You will save money by buying from me.

C. H. W. WEBER,

2146-2148 Central Ave., CINCINNATI, OHIO.

Successor to Chas. F. Muth & Son and A. Muth.

Please mention Bee Journal when writing.

CALIFORNIA RED WOOD

Twelve ounce cold rolled copper tanks; hydro-safety lamps; climax safety heater; corrugated wafer regulator, and the best system of heating and ventilation is what makes the **Sure Hatch Incubators** hatch sure. **Common Sense Brooders** take good care of little chicks. Our free catalogue contains hundreds of actual photographs of the Sure Hatch at work and is full of honest poultry information. You ought to have it. Let us send it to you. Write at once, addressing nearest house.

Sure Hatch Incubator Co., Clay Center, Neb., or Columbus, O.

Please mention Bee Journal when writing.

For Sale, Reasonable ½-pint TIP-TOP HONEY-TUMBLERS. Leghorns exclusively — Single-Comb, White and Brown; 20 eggs weekly.

7A3t **Geo. M. Deer, Sylvania, Ohio.**

Please mention Bee Journal when writing.

EVERGREENS

Hardy sorts, Nursery grown, for windbreaks, ornament and hedges. Prepaid, $1 to $10 per 100—50 Great Bargains to select from. Write at once for free Catalogue and Bargain Sheet. Local Agents wanted.

D. Hill, Evergreen Specialist, **Dundee, Ill.**

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FREE FOR A MONTH ....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

Please mention Bee Journal when writing.

200-Egg Incubator for $12.80

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.

GEO. H. STAHL, Quincy, Ill.

45A26t Mention the American Bee Journal.

WANTED 75 to 125 colonies of bees in some location where I can have room for 3 apiaries, within 100 miles of Chicago—in Indiana, Michigan, or Wisconsin.

Address, W. FILMAR,

6A4t 100 Bruce St. LONDON, ONT. CAN.

WHAT OUR PATRONS SAY

Get 50 chicks from 50 eggs often. **HATCH EVERY GOOD EGG EVERY TIME.** Never gets out of order. Needs no attention at night. Regulates perfectly. Best on earth. Catalogue BUCKEYE INCUBATOR CO., No. 53, 2c. Springfield, Ohio.

50 Egg Size $5

30 DAYS TRIAL

Please mention Bee Journal when writing.

and one day I saw an item in the paper, of a man having his bees follow him at his wish, by whistling. He covered his hands with honey and went to the bee-hives and whistled the song "So leben wir, so leben wir, so leben wir alle tage, bei der allerschonsten sauf compagni," etc.; a German tune, always the tune. The bees, smelling the honey, came and cleaned his hands off. The next day he went a little further away and tried the same experiment and the result was the same—the bees ate all the honey but did not harm the man, and in time he could call them far away.

Then I tried the same experiment. I had a garden-house, or summer-house, and in a few days I could call the bees into the house by the thousand at a distance of a block. One fine afternoon I invited a party of friends (consisting mostly of ladies) to afternoon coffee in the summer-house, and, when my table was complete, I told them I expected some more friends, and, stepping to the door I whistled, and in less than a minute the room was full of bees. The ladies were so frightened that they all jumped up, and the result was that I had all the coffee for myself. So, surely, I think bees can hear.

Cook Co., Ill. JOHN P. TONNER.

Our Advertisers.—We do not make a practice of devoting much space in our reading columns to our advertisers. We take pains, before allowing them to buy space of us, to find out that they are considered reliable, and after they have used our space for some time we get to know, through our readers, something of their product and of the manufacturer, breeder or advertiser himself.

Many a person or company has advertised with us for two or three months, then dropped out and was never heard of again; while others commenced modestly—have an article of merit to start with, find a general demand for it, it fills the bill, year after year the article is improved by their experience, it is sold reasonably—and continue with us without interruption.

It is always safe to patronize this class of advertisers. You are pretty sure of a fair deal, because they cannot afford to do otherwise.

An instance: The Page Woven Wire Fence Co., of Adrian, Mich., have used our columns continuously for years; they have established themselves in the confidence of our readers, and they could never have done so if there had not been real merit in their fences. Their business has doubled up year after year, until (we are credibly informed) they use the entire output of wire of their extensive steel mill, at Monessen, Pa., in their own fences.

They do not claim to sell fences the cheapest but they do claim that since they make their own steel and wire they have a wire especially adapted for fencing purposes, and one that will sustain the *special features* in Page Fences.

WANTED Partner, with capital, to keep bees on large scale in honey locality never known to fail; close to good market, thus insuring good returns on the investment. To associate with party of 20 years' experience. Reference, Editor American Bee Journal, for character, ability, etc. Address, BEE-KEEPER, 622 Colorado Ave., Chicago, Ill.

Send for circulars regarding the oldes and most improved and original Bingham Bee-Smoker
FOR 23 YEARS THE BEST ON EARTH.
25Atf T. F. BINGHAM, Farwell, Mich.

Went Like Hotcakes

A Nebraska customer when ordering a new supply of our fine Alfalfa honey in 60-pound cans, said: "The last I got went like hotcakes." So it does

More people might do well if they would order this honey, or basswood, and sell it. It not only goes off "like hotcakes," but it is mighty good on hot cakes.

See honey-offers on page 98.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - - CHICAGO, ILL.

Queens you should Have

Does blood tell in other stock? Give your bees a chance. Stock used for breeding the queens offered—not from a sport, but my pick out of an apiary giving last season an average yield as follows:

Honey-Gathering.

102 lbs. extracted and 68 lbs. comb honey per colony besides increase and stores for winter.

Quality of Comb-Honey Produced.

"Man! It would dazzle you." Wm. Envoy, Ontario Government Inspector of Apiaries.

Wintering Qualities.

Up to the present (January 30) I never found these bees to show the least indication of unrest—always perfectly quiet. They are wintering perfectly.—Frank T. Adams, Brantford, Canada.

General Commendation.

Out of those queens you sent me I have produced the best race or strain of bees I ever owned. Remember that is saying a lot, as I have tried every breed imported in this country. The bees winter better, build up, and stand cold chilly winds in spring better, and are more suitable than any bees I ever owned. For the season they gave me about double the honey the pure Italians did, and more increase. Glad you are going into the queen-business, and are going to join the ranks again. We are much in want of a few men like you. C. W. Post, Ex-president Ontario Bee-keepers' Association (owns 365 colonies).

S. T. Pettit, Canada's most successful comb-honey producer and bee-keeper, says: "The blood in my apiary is largely the progeny of queens sent by you, and they are grand bees."

Prices of Queens.

They are duly free to the United States. Tested, $2.00 each; $10.00 for 6; $18.00 per dozen. Untested until July 1, $1.25 each; $7.00 for 6; or $12.00 per dozen. Same after July 1st, $1.00 each; $5.50 for 6; or $10.00 per dozen. Larger quantities, prices on application. Postage stamps taken for fractions of a dollar. To be fair to every one, no selected tested queens are offered. Every one has the same chance. The above queens are bred from a careful selection of Italians and Carniolans. Pure Italian and Carniolian queens same price. Price of full colonies on application. Orders booked as received, and filled as quickly as possible. Order early.

Address, R. F. HOLTERMANN,
Bow Park Co., Limited, Brantford, Ont., Canada

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Tip-Top Glass Honey-Jars

The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.

If you try them once you will likely use no other kind of top or sealing arrangement for honey-jars.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

BEE-SUPPLIES!
ROOT'S GOODS AT ROOT'S PRICES.
Everything used by bee-keepers.
POUDER'S HONEY-JARS. Prompt service. Low Freight Rates.
NEW CATALOG FREE.
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That covers the whole Apicultural Field more completely than any other published, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

Please mention Bee Journal when writing advertisers.

We are the Largest Manufacturers of Bee-Keepers' Supplies in the Northwest

Send for catalog.

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We have the Best Goods, Lowest Prices, and Best Shipping Facilities

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Hello! Here We Are and no "left overs." Not a sticker in the house! Finest dovetail Hives and Supplies in the world at maker's prices. Service and shipping facilities simply perfect. Let us estimate your wants. Correspondence invited.

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We have a Large Stock on hand and can ship promptly.

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Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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WANTED A Competent and Reliable **APIARIST**

to handle two out-apiaries on shares. Must have experience, and be well posted in the business. Address,

P. W. DUNNE,
River Forest, Oak Park Post-Office, Cook Co., Ill.

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California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

Pumps and Spraying Machines.—We have received from the Deming Co., of Salem, O., one of their new catalogs of pumps and spraying machinery, which ought to be in the hands of every farmer, fruit-grower, and market gardener. The Deming people are among the oldest manufacturers of these goods in the country, and their line is most complete, embracing all approved patterns of bucket, knap-sack and barrel sprayers; also field and power sprayers. The adaptation of these devices in recent years to painting and whitewashing has materially enlarged their scope and usefulness. The book contains a very convenient spraying calendar: also directions for preparing and using various mixtures, all of which add to its practical value. The Deming people publish a special edition of "Spraying for Profit," which they sell at 10 cents, and give a copy free with every pump they sell. Those who are in the market for spraying machinery for the coming season will do well to correspond with the Deming Company, whose factory and main office is at Salem, Ohio. In corresponding, kindly mention the American Bee Journal.

25th Year **Dadant's Foundation** 25th Year

We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

Bee-Keepers' Supplies OF ALL KINDS *****

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale **at very low prices.**

Langstroth on the Honey-Bee—Revised,

The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....

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Hamilton, Hancock Co., Ill.

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Do You Produce Comb Honey?

Here is something that will interest you.

"The Danzenbaker Hive I think will take precedence over all others. I am delighted with it, as it is simple, and easily manipulated."

R. H. PEPWORTH,
Pietermaritzburg, Natal, South Africa.
Nov. 30, 1901.

If you buy the Danz. hive you will find a ready market for your honey. Comb honey in Danz. sections has never yet been held because of "little demand."

EXTRACTED HONEY!

You will need good hives, smokers, knives, and most of all, a good honey-extractor. Root's Cowan Rapid Reversible Extractors are used everywhere, and always acknowledged to be the best. Be sure to get one of our make.

BEESWAX?

You should have the best wax-extractors, else large quantities of wax will be left in the refuse. See what one extensive and practical bee-keeper says of the **ROOT-GERMAN STEAM WAX-PRESS:**

For over 20 years past I have had to render up old combs or cappings in larger or smaller quantities, and my experience has been extensive, for I have tried faithfully almost every known method to get all the wax out, but have never succeeded to my satisfaction until recently. I got of you a German wax-press, that comes nearer accomplishing that object than any thing I have ever tried. I am more than satisfied with it, for, if used according to directions, there is little if any wax left in the refuse. Any one used to the old methods will be astonished at the results obtained. In this press you have given those in need of it the best thing, to my mind, you have ever brought out, and I really believe all who try it will pronounce it a real treasure. There are other points of advantage that I could mention, one of which is its perfect safety—no boiling over and setting fire to every thing, and it can be left alone without care for quite a time, and every thing can be kept neat and clean, and it occupies very little room. E. T. FLANAGAN.
Belleville, Ill., Dec. 12.

Root's goods are for sale everywhere. See list of jobbers and agents in the January bee-journals. A full list of local agents sent you on request. We will also send you a little book, "Facts About Bees," describing the Danz. hive, and our catalog, on request.

WANTED.—Beeswax. Price, 28c cash or 30c in trade for pure average beeswax, delivered here. We want also a car of white sage extracted honey, also large lots of WHITE COMB HONEY in DANZ. sections.

THE A. I. ROOT CO., MEDINA, OHIO, U. S. A.

☞ **GEORGE W. YORK & CO.,** 144 & 146 Erie Street, CHICAGO, ILL.,
are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO.
Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MARCH 6, 1902.

FORTY-SECOND YEAR
No. 10.

WEEKLY

BEE-HOUSE OF F. R. WEBSTER, OF CHESHIRE CO., N. H.—(See page 143.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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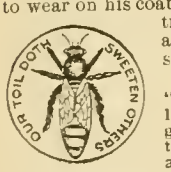
MEMBERSHIP DUES, $1.00 a year.

☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

A BEE-KEEPING HOG is the title Editor Root gives the man who will locate himself upon territory already fully occupied by others. Ugh! Ugh!

EDITOR E. R. ROOT does not compare with his father as a hobby-rider. Still, he is something of an equestrian in that line. Just now the hobby he has mounted is that of pure air and plenty of it for bees in winter. Not a very unsafe hobby.

C. P. Dadant has had put upon him the honor of being made one of the regular collaborators of Revue Internationale. "Our Camille" knows a lot of things about bees, and knows how to tell what he knows—probably better even in French than in English.

"THE COW PEA" is the title of the latest publication issued by the Experiment Farm of North Carolina State Horticultural Society at Southern Pines, N. C. This book, neatly bound, and illustrated in plain and concise manner, discusses the value and uses of this important crop—the cow pea. Every reader can get a copy free by writing to the Superintendent of Experiment Farm, Southern Pines, N. C.

FRANK BENTON, formerly Assistant Entomologist at Washington, has been advanced to the post of Apicultural Investigator in the Department of Agriculture. The creation of this special commission is one of great interest to bee-keepers, and it is a matter of no little pleasure to know that they are thus recognized by the United States Government. And Mr. Benton is well qualified for the position.

A $100 OFFER.—Judge E. Y. Terrall, in the Lone Star Apiarist, made the following offer:

After a research and study for a lifetime, I have failed to master the little honey-bee. I will give 12 months' time and $100 to any one who knows all about bees to answer two questions that are of great importance to the apiarist, viz:

1. How "successfully" to fertilize queens in confinement.
2. How to distinguish laying workers from other bees.

Cunning Judge Terrall has a string to that $100. When the claimant comes with his answer to his two questions, the judge will say to him: "Do you know all about bees?" and the man who knows enough to answer those two questions will know and confess that he has some things to learn. Then the judge will say, "My dear sir, do you not notice that my offer is only 'to any one who knows all about bees?'"

A BEE-HOUSE OF F. R. WEBSTER is presented on the first page. When sending the picture he wrote as follows:

I send a picture of one of my bee-houses, which is 50 feet in length and 7 feet wide, double deck, with a walk back of the hives 3½ feet wide. It will be observed by looking closely that only half the hives show plainly, as part are painted red and part of them white; the red ones show very dimly, however.

The house contains 29 colonies, mostly in hives of my own make, with half-lock corners, glued and nailed both ways, and I have yet to find one that has even started at the corners.

I make these hives the same size as the dovetailed hive, and use the Hoffman frame, preferring it to any other, by experience. The cover to the hives I made is smaller than the cover of the Simplicity hive, only I rabbet the bottom edges ⅜x⅜ which fits over the body of the hive, preventing the entrance of bees or storm. I also use the super made after the style of shipping-case with glass in the side. The cover is easily raised at any time, allowing one to see at a glance how nearly completed the sections are. After trying several kinds I have concluded that my own make of hive is superior to any other.

F. R. WEBSTER.

NOMINATIONS FOR DIRECTORS.—Mr. P. H. Elwood says in Gleanings in Bee-Culture:

"In regard to making nominations for Directors before election, why not let well enough alone? Our Association is doing well; but as soon as nominations are made there will arise the suspicion that some one or some clique is trying to run it. Better put up with some minor evils or inconveniences than to have the camp divided."

That's one way of looking at it. But may not some one take the opposite view and say that some clique is running the National Association just *because* no nominations are allowed. No one being named beforehand, a large number will not think of any new name, but will always vote for those already holding the position, while the scattering votes are so scattering that no one candidate among them can ever expect election. At present there is practically *no chance* for any except the old incumbents, except some one resigns, declines a re-election, or leaves this world. But we are not complaining.

CONVENTION NOTICES.

Utah.—The Utah State Bee-Keepers' Association will hold its annual convention in the City and County Building, Salt Lake City, April 5, 1902, at 10 a.m. This promises to be an interesting convention. All are invited. It is desired to form an exchange for the protection and benefit of our bee-keepers. Come and aid a good cause. It is expected that every county will be represented. J. B. FAGG, Sec.
E. S. LOVESY, Pres.

Chicago.—Some amendments to the constitution of the Chicago Bee-Keepers' Association have been proposed, and the Executive Committee has ordered them to be brought before the next regular meeting for decision. It is proposed to change the name to "Chicago-Northwestern Bee-Keepers' Association;" and to change the time of meeting to "the first Wednesday and Thursday of December, or such other days as may be selected by the Executive Committee." The object of this is to make Chicago the rallying point for the whole Northwest, or so much of it as is likely to run to Chicago to trade or attend expositions. I believe our association is now the largest local association in America. We remitted to the National Association for 62 members. Our mailing list is about 300, or about ¼ of those in our territory. HERMAN F. MOORE, Sec.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., MARCH 6, 1902. No. 10.

Editorial.

Comb Honey Not Manufactured is the heading of an item sent to the farm papers of the country by the Frank B. White Co., of Chicago, who wrote us as follows:

AMERICAN BEE JOURNAL—

Gentlemen:—You have doubtless noticed in a number of daily and weekly papers a recent statement going around, to the effect that much of the comb honey offered for sale is artificial, cleverly manufactured by special machinery, and filled with syrup, of which the principal ingredient is glucose. This has been given such publicity that it worked undoubted and deplorable injury to the honey market, so that in some localities the demand for comb honey has fallen off almost altogether. A statement of this kind might be excused if it was founded upon fact, but the truth is that there is not a particle of artificial comb honey on the market, and any comb honey offered for sale may be purchased with entire confidence that it is genuine.

So many farmers are interested in honey, commercially, that we thought a brief notice, similar to the enclosed, would be a great favor to your readers, in that it will start a counter-agitation, and so restore the confidence of honey-users. Will you kindly run this notice in an early issue of your paper, of course making no charges for it, as we are simply doing this for the benefit of the honey-producers, feeling that a great injustice has been done them?

Thanking you in advance for the favor, we are, Yours truly,

FRANK B. WHITE COMPANY.

The item referred to in the foregoing, reads thus:

COMB HONEY NOT MANUFACTURED.

A statement has been going the rounds of the press to the effect that nearly all the comb honey on the market is manufactured by a "cute machine," that the combs are filled with glucose and capped over by a mechanical process. The facts are, there is no such thing as manufactured comb honey anywhere in the United States, and in proof of this the publishers of leading bee-journals of undoubted responsibility offer one thousand dollars for evidence to show that comb honey is manufactured, or that such an article is for sale in the open market. Although this offer has been out for fifteen years and has been duplicated by other responsible persons connected with the industry of bee-keeping, no one has ever seen fit to take it up.

The United States Department of Agriculture has put out several published statements denying the existence of manufactured comb honey, and the American Grocer, the leading trade organ of its class, assures its patrons that all the comb honey on the market is absolutely the product of the bee.

The Frank B. White Co. have placed bee-keepers everywhere under everlasting obligation to them for this commendable effort on their part. Undoubtedly every agricultural paper will be pleased to publish the item, which places the truth about comb honey before its readers in a very clear and concise way.

The Frank B. White Company are agricultural advertising agents, and are as clean and "White" as their name indicates. Surely, they have interested themselves in a worthy cause—one in which we trust every farm paper will co-operate, and thus aid in seeing that justice is done the honorable industry of honey-production.

A Spraying Bulletin has been issued by the Agricultural Experiment Station of the University of Illinois, giving important details of spraying that are excellent, but it seems a pity mention was not made of the fact that for the good of the fruit-crop, if not for the good of the bees, no fruit-trees should ever be sprayed while in bloom.

And this reminds us that a certain Wm. Stahl, a maker of spraying outfits, gives, in private letters, some spraying instructions "in connection with the instruction on spraying in catalog." He says:

"Allow me to advise that you give your trees one additional sprayiug this year [1901] while in full bloom, using for this spraying Bordeaux Mixture and adding thereto Paris-green in the proportion of 1 pound to 160 gallons of Bordeaux Mixture. Trees that have been sprayed the past year while in full bloom the results have been simply wonderful. In most cases trees have been overloaded, with scarcely a wormy or scabby apple, pear or plum to be found."

And this in face of the fact that practically all the agricultural experiment stations and experts protest against spraying fruit-trees when in full bloom. Bee-keepers will know how to condemn such advisers as Stahl.

Not only is there danger of poisoning the bees when spraying in full bloom, but there is danger of killing the pollen of the delicate blossoms, and thus preventing the full fertilization and consequent production of a crop.

Is Swarming Desirable?—During the winter months, and before the time for active work with the bees arrives, the man or woman whose veins are filled with the blood of a true bee-keeper will spend many an hour planning for what he is going to do when old Dame Nature thaws out. Among the interesting problems over which many will puzzle is that of swarming. Years ago it seemed to be the somewhat settled opinion that for best results each colony should give one swarm. Nowadays we hear less said in that direction, and some of those who advocated it are among the most earnest seekers after some plan by which the bees may be thwarted in all their efforts to swarm.

If Mr. A. is in a locality where there is a single flow, that flow coming comparatively early, as from white clover, he will have about all he can do to get his colonies in condition for the harvest, and when the forces of any colony are divided by swarming, that means a diminution of his crop.

If Mr. B. lives where there is a long-continued flow, and especially if there be a good late flow, a swarm coming early will be in condition to do fine work on the late harvest, and together with the mother colony the two will store more for the season than the mother colony alone would have done if there had been no swarming.

So the general conclusion is that in Mr. A.'s locality swarming should be discouraged as much as possible, while Mr. B. should do all he can to encourage at least one swarm from each colony.

But is there not a general fallacy in that general conclusion? Suppose each has an apiary of 50 colonies, and he has pasturage for 100. If Mr. A. keeps down all swarming he will have more honey this year, but if he allows his colonies to double by swarming this year, will he not have a larger harvest next year, and the years following? So for Mr. A. is it not the true policy to increase till he has his field fully stocked?

If Mr. B. doubles by swarming, he will have more honey this year than if he had only the 50 colonies to store. But suppose that instead of the swarms having only part of the season in which to store, they would have the whole of it, would not the yield be greater? In other words, instead of having the 50 colonies and their swarms he could have 100 colonies without swarms at work throughout the season, would he not have a greater harvest than with the 50 colonies and their increase? So is not his true policy exactly the same as that of Mr. A., to increase till the field is fully stocked, and then, if he can, to suppress swarming?

It will not do to be too dogmatic in such matters, and the reader will notice that questions are rather asked than statements made. The subject is one upon which it is desirable to have light, and the views of any who are in position to shed light upon it will be gladly received.

Basswood and Wax-Worms.—S. A. Niver, in Gleanings in Bee-Culture, says that while wax-worms bore or eat holes in pine top-bars they never trouble those made of basswood. Have others observed this? Serious objection has been made to basswood in any part of a hive on account of its undesirable habit of warping and twisting.

Convention Proceedings.

Report of the Ontario Co., N. Y., Bee-Keepers' Convention, held at Canandaigua, Dec. 12 and 13, 1901.

BY F. GREINER, SEC.

It was the 12th annual meeting of the Ontario Co., N. Y., Bee-Keepers' Association and a bee-keepers' institute was held in connection with the meeting, under the auspices of the Department of Agriculture and Bureau of Farmers' Institutes.

The President, W. F. Marks, in his message, dwelt upon the importance of organization at the present time, pointing out some of the benefits of the local organization and what had been accomplished through it. He compared the prevailing low price of honey with that of an early date and suggested that it was about time for the producers to name the price of that product. He censured the *teachings* that honey is a luxury, and called the attention of his hearers to the fact that most of the food upon their tables was luxuries and yet much of it had come to be looked upon as a necessity, and why not honey? He thought the bee-keepers, through their periodicals, were much to blame for spreading and maintaining the luxury idea, and it should be discouraged. The producers of other foods did not try to make the consumer believe that their foods are luxuries. The bee-keepers should not only fix the price, but it is the duty of each to work up a local trade, and thus increase consumption. He spoke of the display of honey at the county fair and urged bee-keepers to take advantage of this opportunity to advertise their honey, and at the same time to secure the liberal premiums offered. In conclusion he told his hearers not to get discouraged, but to have some desired object in view, and to work for that object.

HONEY STATISTICS OF THE UNITED STATES.

In the discussion following, it was suggested to appeal to the Government for aid in collecting monthly statistics as to amount of honey produced, and other matters pertaining to apiculture; but it seemed to be the sense of the meeting that the Government would not be able to collect reliable data as the present staff of regular correspondents would not be in any position to know or find out what the honey crop was. It was believed that the National Bee-Keepers' Association could do this work much more effectively, and a resolution was adopted later on asking the officers of said body to devise a plan and put it in operation.

THE GOVERNMENT AND MATING OF QUEENS.

Further, it was proposed that the Government establish an apicultural experiment station on some small island where no honey-bees were found present, and assist the bee-keepers to improve the honey-bee. In such an isolated place the mating of the queens could practically be controlled, and such a course would be more effective than mating queens in tents, for, when unconfined nature would usually select the strongest drones as the successful ones; in the tent no such selection could take place. It was believed that we had just as good bees in America now as anywhere on the globe, and what money our Government expends in importing queen-bees from other lands might better be made use of in the line proposed.

While the Association did not take action on this proposition, still the matter was brought up again by another member, showing that it had gotten a hold. Undoubtedly it will be pushed on at some future time.

APIARIAN EXHIBITS AT FAIRS.

As to the securing of liberal premiums at agricultural fairs it was shown that even a single person could sometimes accomplish a great deal. The agricultural society in a small town of Ontario County, had thus been influenced, and had also increased the premiums on apicultural products and implements from 50 cents to about $30, in consequence of which the bee and honey exhibit had been a most attractive feature of the fair. It was the general opinion that, while bee-keepers take great pride in making creditable displays, they cannot afford to spend time and money without fair pay.

"BEE-KEEPING—ITS CHARACTER AND REQUIREMENTS."

Hon. R. L. Taylor, of Michigan, delivered an address on the above subject. He said bee-keeping differed from ordinary farming in-so-far as the bee-business was subject to greater variation; there were too many exceptions to the rules, and the bee-keeper had to be on the alert all the time. The farmer may grind away each day without much thought, but each day in the apiary brought new work and needed thought; new problems had to be worked out constantly. To keep bees successfully, he said, one would have to observe the following: Abundant and timely breeding of worker-bees, requiring an abundance of stores, for bees used scantily from scanty stores. All shortage should be remedied at an early time. Sufficient supply was not enough. Attending things in season was essential, procrastination is the thief of the honey crop.

In addition to giving plenty of honey some of the sealed stores should be uncapped at short intervals, as bees would not use sealed stores as fast as was desirable for best results. The more they eat, the faster they would breed.

Spreading of the brood, he said, should be practiced very cautiously, giving empty combs or uncapped frames of honey in the center of the brood-nest, as was thought best. He recommended the Heddon method for treating the young swarms, using Heddon hives of 5 Langstroth frames capacity, with queen excluding honey-board between brood-chamber and supers. One empty comb given in the center of the brood-nest, he said, would prevent pollen being stored in the sections. He is getting all the surplus from the young swarms, drawing on the old colonies for bees to re-inforce the swarms. In the fall the young and the parent may be united, killing the old queen, thus practically re-queening all his colonies that cast swarms. How many bee-keepers, he said, have I seen, that would leave the supers on the mother colonies, giving no surplus room to the swarm, thus losing the greater part of the crop. In view of the fact that section honey built by swarms is always of higher quality than honey stored by old colonies over old combs, it is advisable to get all surplus from the swarm, for the market demanded unstained section honey. If it was desirable to produce well-filled sections, sealed all around, then not too much room should be given. In other words, the bees should be crowded; but if quantity is the object regardless of fancy filling, then more room should be allowed.

All comb honey, as soon as finished, should be taken from the hives and stored in a warm, dry room; unfinished boxes, when found, to be returned to hives where room was needed.

The improvement of our stock should be looked after during swarming-time. All queens from colonies not doing well should be removed and queen-cells from good stock should be inserted, utilizing as far as possible all the cells from the best colonies.

However, it was Mr. Taylor's opinion that Nature had already done all it could do in the line of producing a hardy bee, as well as one of greatest honey-gathering qualities; she had weeded out all the weak and the indolent, while she had preserved the strongest and the diligent; a process that had been in operation a great many thousands of years, we could therefore not hope to make any more gain in these directions.

In the line of perfect capping of honey, the honey-bee might be improved. The color of bees could be changed, or in other lines, wherein Nature had not busied herself, had not cared seemingly to bring about greatest perfection, there we might expect to accomplish something. As a comparison he said: Hardiness and fleetness had been developed in cattle, and long horns had been given them, so they might protect themselves against enemies and endure the hard winters. It was not possible to make any improvement there, but evidently Nature had not cared to develop the beef and milk-producing qualities of cattle, and man had brought about wonderful changes. The difference between bees and cattle was, that Nature had developed as far as possible those qualities in the bee that are desirable for man; but she had not done this much for

cattle. The high qualities that our present cattle possess are of most value to man, but of no value to the cattle. The high qualities bees possess are valuable both for the bees and for man. The bee had already a long pedigree.

As to breeding out the swarming habit he said when swallows and rabbits forget to rear young then bees will stop swarming.

Retrogradation, he thinks, is due to the bee-keeper nursing up weak colonies. There was virtue in the sulphuring match. Nature would destroy them all.

GENERAL DISCUSSION.

In the following discussion many points were brought out. One member said he had more call for such honey as was not filled and sealed next to the wood of the sections. Mr. Riker, of Iowa, asserted that he could take the poorest queen of a whole yard and rear as good queens from her as from the very best one. It depended wholly upon the manner she was reared. He did not give a special method of rearing queens, except that they should have an abundance of food. Others of the convention, however, took exception. Mr. Olmstead said that would eliminate all chances of improvement. Mr. Riker had observed that there was a great difference in the longevity of bees from different colonies.

Mr. Olmstead, of New York, brought out this point more clearly in his address later on. He said he had found that some colonies would feed their young more plentifully than others. The young larvæ in some colonies would be surrounded with an abundance of food, not so in others, and he theorized that the more abundantly fed larvæ would develop into stronger bees, in particular as to their wing-power, than those scantily fed. The wings, he said, are the most important indispensable tools for the field-bee, and when they are gone, or worn out, the bee's utility is gone and she dies. The wings of the bee develop at the very last end of the imago's life, and if the growing insect runs short of material, the wings will of necessity suffer most, and a short-lived bee is the result. To ascertain the truth of the matter he had made an experiment, selecting two colonies of equal strength; one, which seemed to provide their young always with an abundance of food, the other, which exercised great economy in this direction. Into each of these colonies, both of the German race, he placed a comb full of newly-laid eggs at the same time, said eggs originating from a very yellow Italian queen. When the time came for these yellow bees to become field-workers he kept close watch of the two colonies. The colony that fed their young abundantly, retained yellow Italian bees about two weeks longer than the one which provided scantily.

Mr. Olmstead did not agree with Mr. Taylor on the point that Nature always weeded out the poor colonies. He said the bees that stored the most honey in the brood-nest would come through the winter best, but they were not the ones the honey-producer wanted. He would prefer such bees as would store the least in the brood-chamber; but Nature would weed them out without he interfered.

A year ago Mr. Terry said, in a paper read at the convention, that bees would adapt themselves to different conditions according to the environments. If bees were employed for a term of years building comb honey, they would eventually become a fixed comb-honey strain. Mr. Olmstead said he could not see how an influence could be exerted upon the progeny of the queen-bee by the workers, since they were not directly concerned in propagating the race except as it might occur through nursing the young. To see what this influence might be, he conducted another experiment, selecting two colonies, one an Italian and extremely vicious, the other a brown German and very gentle. The queens were exchanged and results noted. After a few days, and after the queens had begun laying in their new homes, the yellow vicious bees were nursing the gentle brown young, and the gentle brown bees were nursing the vicious yellow. As soon as the yellow ones had hatched in sufficient numbers in the German colony, they showed unmistakable signs of fight just as their sisters in the other hive. But the black ones seemed to show the bad bringing up they had had, and were found on the warpath, which he could only account for on the theory of "bad company corrupting good manners," the Italians giving the word and set the example, the innocent blacks followed suit; and not because the vicious nurse-bees had instilled viciousness into their blood. Mr. Olmstead thinks he has some proof that qualification worker-bees have *acquired*, cannot be transmitted to the future offspring of their mother.

Developing the Home Honey Market.

Very few producers are good salesman; this is perhaps quite true. Nevertheless, every producer of honey can, by a little effort on his part, do something towards creating a demand for his product in his town, among his neighbors. The easiest way to dispose of a honey crop is, of course, to send the whole crop to a commission man in some large business center, and take what the commission man sees fit to give for it. That is the easiest way. But is it the best way? Do you get as much money out of your product as you might or ought to? A great many people follow this plan, I know. They are too easy to make an effort. I know of but few times that sales made by commission men for me were satisfactory, and a great many that were most unsatisfactory. Unwisely I sent a small lot of honey to Pittsburg this year. The firm I shipped to quoted new honey at from 17 to 20 cents before I shipped, and I supposed my honey would sell quickly somewhere near their figures. But what were the facts—what was the result? Well, after waiting over two months, returns were made disclosing the fact that my honey had been sold at 12 cents per pound! I considered that I had been swindled out of $15. The market report enclosed in the letter showed a wonderful decline in price of honey in that market, although another firm from the same place, and having their place of business on the same street, quoted me prices at 16 to 17 cents. Pittsburg business men are very apt to quote high and sell low, all of them. I don't think in other cities they are quite as bad. But, after all, this one fact is true: The large centers are generally well supplied, often overstocked, and this brings down the price. The remedy seems quite simple: *Do not send your honey to the city.*

I know from experience that a great deal of honey can be sold near where it is produced. I am myself naturally disinclined to do any peddling, but for the sake of the experiment I decided to make a trial this year. It seemed pretty hard work for me, and I encountered some very unpleasant things. When you have to make a dozen calls, have the door slammed in your face repeatedly, being treated as though you were a dog, and then perhaps not sell anything, or only a ten-cent box or so, is discouraging, and makes you wish you had stayed at home. On the other hand, you will meet pleasures unexpectedly; you will find some friendly good people with whom it is a pleasure to deal; and though you may not always sell to them, you go away from such a house with a good feeling. Sometimes these people are very kind, accommodating and painstaking; they help you make sales with their neighbors and friends; they insist on giving you your dinner, etc. You feel encouraged, and you begin to think the people are not so bad after all.

Occasionally you will enter the home of a storekeeper who sells honey from his store. He may tell you how you hurt his trade; he may ask you if you think it fair for you to supply his customers with the very article he is trying to sell, he having to pay big rent, and you perhaps not even a resident of the same town! You, of course, must meet his argument somehow or other. If you sell extracted honey, you can ask him how much of such honey he sells in a year, or whether he sells any at all. If he does not, how can you hurt his trade? It is right the opposite—you may benefit his trade by developing the market, getting the people to use extracted honey by showing them a good, pure article, and letting them sample it—giving the children a taste, too, telling the people how extracted honey is produced, perhaps showing them a photograph of your extractor and how it is manipulated, etc. Then after you have made converts, the merchant can sell your honey in quantities, ten times as great as he ever was able to.

The extracted honey the average merchant keeps is usually put in jelly tumblers, is of light color and of good body, but, whew! what a taste, compared with a genuine article that comes from the hive.

Tell the merchant you will supply him with honey free from such glucose mixture as he is selling, at a living price. If he objects, then tell him you have no other way but to go around from house to house and make sales to his customers.

Extracted honey is really a much better and safer article to handle, either for the bee-keeper or groceryman, than is comb honey. Very few people outside of the honey-producer know how to handle comb honey properly, and without getting it to leaking. I sometimes do wonder that storekeepers will handle the article when I see in what shape they keep it—leaking, daubing everything, shelves all sticky, cases dirty with the dust that settled on them, broken combs, etc. Now all this seems unnecessary, and yet it is not an uncommon thing to be seen.

In case of extracted honey how different it is! Unless a package breaks there is scarcely a leak. The honey is put up in original packages by the producer, some perhaps in tin, some in glass. They can be handled roughly, turned upside down if sealed; on the whole, such should give satisfaction all around, and do. The only drawback is *the granulating part.* On this the consumer needs enlightenment. After he once understands this matter thoroughly he will object to it very little. In fact, a great many people think the extracted honey just delicious when it is semi-granulated. I found many people that were just taken up with it when it was so partly granulated, sort of semi-transparent and almost too thick to run at all. When our honey gets solid and hard in small-mouthed and deep glass packages, it is then not in good shape to be sold and it must be liquefied. By keeping them in a very warm place for a time the honey will come back to its liquid state without opening the packages. I would not use small-mouthed deep glass bottles anyhow, and, if I did, I would not put up any more of the honey than I could dispose of soon. As long as we have our honey stored in tin we can liquefy it very easily.

I do not store honey in wooden receptacles and let it become hard. It requires a great deal of work to remove solid honey from wooden packages, as I have found by experience. This can and should be avoided.

I do not object to selling to retail dealers, in fact I am anxious to do so. I tell the groceryman so; but I do object to his making an unduly large profit. I also tell the groceryman that he does not understand handling comb-honey properly; that the honey he keeps for sale in the way he does rather disgusts the purchasing public, and that the honey I sell, or show to the people as I go from house to house, looks neat and clean; it has not been punched full of holes by careless handling, therefore does not leak, etc. If I can sell him a number of cases of honey I caution him to exercise more care in handling the sections, clean up all leaks immediately, and keep things looking perfectly tidy.

I cannot say that I was entirely satisfied with my peddling trip, although I sold some $28 worth of my product. I though I ought to have sold more. The beauty and the surprise, however, was, that orders came in for more honey in consequence of my trip right along after that and I expect in the future I will have very little trouble in selling a large share of my crop in my vicinity.

If the bee-keepers as a whole would follow a similar course in disposing of their crop, there is no doubt that the price of honey would very soon rise, for it is the large business centers that fix the price of it, and these centers are over-supplied now. Let these people get anxious for our honey, and then you can ask a fair price, and get it. We do not produce too much good honey at the present time; the trouble is the uneven distribution. F. GREINER.

A brief history of the Ontario County Bee-Keepers' Association was given by Mr. Olmstead, mentioning the names of the founders, etc., and was responded to.

HUNTING BEES.

In his talk on this subject, Mr. H. L. Case gave some valuable hints to those who like this sport. He said he had given up the "bee-box" with its bait, to start a line, long ago, but lined the bees from watering-places; he had found that bees do not travel far carrying water, but take it from the next puddle, or spring, watering-trough or the like. If bees are found working in such a place near a piece of woods, one may be sure to find the bees near by. To locate the bees is an easy matter—just keep the eyes open. He had found in a few afternoons 24 trees within a few miles of the village, and said there were 75 more in the woods. Six bee-trees he found one afternoon, lining all from one and the same little spring.

HOW MR. RIKER MANAGES.

Mr. Riker, of Iowa, produces only extracted honey; he told the bee-keepers how he managed his bees. He winters them in single-walled three-story hives; says they give better results than chaff hives in Iowa. The lower story is empty, the bees with the combs containing 40 pounds of honey are in the second story, and the upper story is filled with absorbing packing material. A temporary windbreak of cornfodder is set up around on three sides of the apiary. This shelter he thinks is most essential. Protected in this manner his bees come out of the winter with 12 pounds of bees per colony, which fill the hives with brood so that he soon has from 18 to 21 pounds of bees in each hive. The lower and empty stories are filled with combs, the packing is removed from the upper story and eight combs are given here, the eight given occupying the same room that the 10 would occupy.

When colonies become too strong, he removes combs of brood and adhering bees and forms increase. He does not take off any honey till the season is over. The upper stories are taken to a basement room and kept warm for some time, when he extracts the honey. The lower stories are emptied of their combs and the hives gotten ready again for winter.

The highest yield he has ever had in one day from one colony was 18 pounds from clover.

When queens are discovered that are not up to the mark, they are removed at once and young fertile queens are given. He introduces queens without further ceremony; as soon as the dequeened colony becomes uneasy the new queen is allowed to run in at the entrance and is accepted. Incidentally he made the remark that one of his queens, which had been clipped, did good service for seven years.

FOUL BROOD.

Mr. R. L. Taylor then spoke on foul brood, describing symptoms and appearance, and said he had cured many diseased colonies by shaking the bees off from their combs, and giving them a new hive and foundation-filled frames. However, when the disease is in the advanced stage, and could be told by the odor when entering the apiary, he thought burning was the safest and best. When he first had foul brood in his yard he said one of the affected colonies cast a swarm which he hived on foundation and it remained healthy. This showed him the way. He had found that foul brood did not spread as rapidly as we are led to believe, but advised to exercise great care to prevent the spreading of the disease by bees robbing. The work of shaking off the bees should be done rapidly; it would not do to treat diseased colonies when bees were flying. Diseased bees should also be prevented from entering adjoining hives. Early in the morning, he thought, was a good time, before the bees got to flying. He cautioned not to leave any honey lying around anywhere. With care, the disease could be cured: one need not get into a frenzy because his bees have the disease.

The question-box was conducted by Mr. Taylor, and proved to be interesting, but lack of space forbids going into the details. Ontario Co., N. Y.

Contributed Articles.

No. 2.—Bee-Keeping for Women.

How to Begin the Business of Keeping Bees.

BY EMMA M. WILSON.

If you are going into bee-keeping as a business you should begin at the very beginning, and know something about bees.

When I first commenced driving I did not drive a horse until I knew how to harness and unharness it. I wanted to learn enough about the harness so that if anything went wrong about it I would know what it was that was wrong, and how to remedy it; and more than once I have

been glad I knew something about the harness, as I should have been in a bad plight if I had not.

A beginner of to-day has such an advantage over a beginner of say 40 years ago. Almost everything then had to be learned by actual experience, and some of the experience was costly. I venture to say that some of the veterans would have paid a good price to have had some of their questions answered 40 years ago. Now, all the beginner has to do is to send the question to the American Bee Journal and back comes the answer. And just think of working with bees without a smoker and all the modern conveniences we have to-day! So, beginner, whoever you are, count your many blessings, and do not forget under what bright prospects you are starting your venture, and don't you dare to get discouraged. If you are tempted in that direction, just think back what it would have been 40 years ago, and all your discouragements will vanish like smoke.

Who knows what bright prospects the bee-keeper of 40 years from now may expect? With bees with long tongues, and a non-swarming strain (I certainly hope they will reach that point during my lifetime), bee-keeping 40 years from now may be a perfect dream of bliss, even if at present it is not.

There are so many and such good books and bee-papers that a thorough study of them will give you a pretty good foundation to start on. But there are some things that you must get directly from the bees themselves.

Suppose you start with a very few colonies. That will give you a chance to experiment with the bees, and gain experience. Then, if you do have some loss in learning your lesson, it will not be as heavy as if you had a larger number.

I don't see why a woman is not in every way qualified to keep bees as well as a man, if she has the brains and knows how to use them. To be sure, in the matter of strength man has the advantage, but it is usually more than balanced by a woman's power of endurance, patience and perseverance.

Let us hope that if you are going to keep bees you are in a good locality. That has so much to do with your success or failure. It seems to me that in bee-keeping more than any other business there are so many elements entering into it over which you have no control. You may have your colonies ever so strong, all ready for the harvest, and yet not get any crop—because there is no nectar in the flowers. Or, the weather may be too cold. Or, it may be too wet, or too dry, or there may not be any clover, etc. Well, I always feel better reconciled to a failure of that kind than I would to have an abundant flow of nectar, and not have the bees ready for it.

Unless you have some capital to fall back on, it is well to make the bees pay their own way. I am not sure but it is a good plan to make them do it any way, capital or no capital. You may not increase your colonies quite so fast, but you are on pretty safe ground. If you keep a strict account of what your bees cost you, and what they bring in, you are a good deal more likely to make money on them than if you run on the haphazard plan, because you will be more careful of your expenditures, and buy only what you really need.

Another very important item is that you have good stock. It costs just as much to keep a poor colony of bees as a good one. They may be equally strong and one colony give you 50 pounds of surplus honey, and the other only 15 pounds. You will readily see that the 15-pound colony is not a profitable investment. What will you do about it? The first thing to do is to kill the queen of the poor colony, then give them a queen reared from your best colony. You may not get as good a queen as its mother, but you are not likely to get as poor a one as the one you killed; and by breeding from your best queens, and killing your poor ones, in time your stock must be improved; and good queens mean more dollars and cents every time.

What do we mean by good queens? We mean the ones that produce workers that are hardy, and are good honey-gatherers. When we have queens that will produce that kind of bees, we call them "good queens." We don't care whether they are yellow, leather-colored or black; whether their bees are three-banded or not, only so they get the honey.

To be sure, if we could have their good qualities, and the golden yellow bands combined, we would like it, but we are not going to give up the good workers for the sake of having yellow bees, no matter how pretty they are. It is honey we want. I would pay three times as much for a tested queen that had been tested as to the quality of her bees as honey gatherers, as I would for a tested queen that had been tested merely as to the number of bands her bees had.

Moldy Brood-Combs—Bees Fed in Winter Cluster.

BY G. M. DOOLITTLE.

"As I have read your answers to questions in the American Bee Journal for others with great interest, I have been wondering if you would answer one for me in the same paper. What I wish to know is something regarding moldy combs. I fear, by the appearances of things, that I shall have moldy combs in the spring, as my cellar is very damp and I can smell the moldy combs already. What will be best to do with them in the spring, should any be very moldy?"

I do not think that you need wonder about your questions being answered through the columns of the American Bee Journal so long as you will ask questions which will interest the readers of that paper, for even the most advanced apiarist often runs on little kinks when reading replies to queries which he has not thought of before—kinks which often prove of great value to the one who wishes to do the most possible that he may succeed in his undertakings with the bees.

Regarding the moldy combs; we will hope for the best, thinking that your fears may prove unfounded. But should the combs come out moldy, probably not more than one out of five or six will be very bad. Those which have but little mold on them can be left in the hives, where they will soon dry out enough so the bees will make them sweet and clean. If any are from one-third to covered all over with mold, it is well to take them from the hives and hang them in some dry, airy room till they are thoroughly dried out and needed by the bees. Do not attempt giving them to the bees while they are all wet and slimy, for nothing seems to discourage a colony of bees so, as nasty, wet, moldy combs.

When they get all dry, and the colonies from which they are taken are needing more combs, take the now dried combs down, and, with a rather stiff brush-broom, made from broom-corn, brush them off thoroughly (but not hard enough to break the cells, when you can put them into the colonies, one at a time, and the bees will clean them up so nice that, should you look for them two days after, you could not tell which they were, unless you marked the frames or the place in the hive where you put them. It is best not to give any colony more than one at a time, unless the colony is a very strong one. In three or four days you can give another, and so on till you have them all in the hive.

I never yet saw a comb so badly molded but what the bees would make it apparently as good as ever, if the above plan was followed.

Some say, melt up such combs; but so far as I have tried, the mold will absorb the most of the wax so that very little is obtained when melted by any process, and scarcely none at all when melted in the solar wax-extractor, as the fibre of the mold absorbs what little wax remains. If I were to melt up such combs I would calculate it would pay me to have them cleaned up by strong colonies before melting, through the extra amount of wax which could be obtained.

HOW ARE THE LOWEST BEES IN THE CLUSTER FED DURING WINTER?

"I have kept bees but a little while, so I do not claim to know much about them, but I am anxious to learn. One of my colonies in the cellar has bees hanging below the frames and I have been wondering how these lower bees are fed during the winter. A neighbor tells me that these lower bees go up into the cluster, and on the combs, every little while, so that they may have access to the honey. Is this right? An answer through the columns of the American Bee Journal will be appreciated."

The story of your neighbor is one that has been told a great many times, and is based on the very reasonable supposition that each individual bee must help itself to honey directly from the cells containing the same. But, reasonable as it may appear, I am led to believe that the story has no foundation in fact. I have just been into my bee-cellar to see if I could not discover something of the

kind going on, and have to report that I cannot discover any such movements. Some of the colonies have bees hanging below the frames to the amount of one-fourth of a good-sized swarm, at least; and if such moving up after honey was going on as has been supposed, it would seem that now and then a bee would be crawling in after honey, especially as the lowest bees would have to travel some six or eight inches up through or over the cluster to get where the honey is. But I saw nothing save a big cluster of nearly or quite motionless bees hanging and overlapping each other—each one, or nearly so, having its head under the body of some other bee.

Of course, it is impossible to see or know just exactly what is going on inside of the cluster of bees during winter; but I had always supposed, and so believe now, that bees give honey to each other; that is, the bees which are near the honey in the combs give to those under them, and these, in turn, to those next further away, and so on till the last bee is reached at the very bottom, outside of the cluster. Bees are continually passing honey around during the summer, and why should they not do the same thing in winter, when it is more to their interest to do so than in the summer time, when all can go about as much as they please? All know that the honey carried with a swarm is passed around, when bad weather comes immediately after the swarm issues, and all are kept alive, or the whole perish together.

I am well aware that these things are of minor importance; but I have always believed that it is better to be informed on all of the minutia of bee-keeping than to pass anything by as non-essential, as such a course allows us to drop easily some important point which would otherwise be brought to light. Onondaga Co., N. Y.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

"THE HOME CIRCLE" DEPARTMENT.

Exit "The Home Circle!" A surprise for us that was not agreeable. Gone, but not altogether forgotten, Prof. Cook may be assured. In the real home circle it oft happens that the one who is gone is, in a kind of a way, more emphatically permanent and present than those who remain. We can hope that some of the tender sentences of our "Home Circle" may enjoy a portion of the same sort of immortality. Page 89.

A "HORSE" THAT NEVER WAS A COLT.

So Mr. Willcutt never saw a horse except he was once a colt. Most wish I could say so, too. I have a horse that was never a colt. And this long, trying cold-spell I have to go out and stand over him for a long while every day. It isn't because I love him so; (Never saw a man that loved that kind of horses) it's merely that "a cruel fate has fixed me there." Page 51.

AIKIN HITS THE "BULL'S-EYE."

You often hit the "bull's-eye," Mr. Aikin; and one of the times you did it was when you said that a man may be an expert with insects, and yet a failure in dealing with his own kind. Jars their hive and wonders at the results. Can never get over expecting them to look at everything from his own point of view—and swallow all he tells them. —and frequent his feeder when he has put no feed in it—and give up swarming, and everything else, when he sings out, "Whoa!" Page 69.

EXTRACTING WITH COMBS THE OTHER WAY.

Undoubtedly, thin honey can be thrown from combs placed "t'other way;" but part of the centrifugal force is wasted against the side of the cell in so doing, and we need it all. Cases in which the honey will not come out at all will be more frequent, and the percentage left in the combs will be larger when you get the "improvement" running. At best the amount left sticking to the comb is a sadly large part of the whole—say a quarter-pound to 4¾ pounds, thrown out —5 per cent—and I should expect twice as much, or 10 per cent with the suggested position. Of course, the top-bar should be out, to take advantage of the slant of the cells, as Mr. Doolittle suggests, and also to support the comb lest it may break. Page 70.

BEES DYING IN THE HIVE.

I don't believe moribund bees will be satisfied unless they can get further away from the combs than 1½ inches. Although their efforts to get further away to die may not be any *great* disturbance to the colony, yet it is as far as it goes a disturbance, and a disturbance introduced where we want to do all that we can in favor of quiet. Sad to do so much "carpentering" and stop short of satisfaction. Why not go a little further and have the death-chamber outside altogether? Page 70.

EAR BETTER THAN THERMOMETER.

That was a wise saying of Mr. Pettit (page 71) that an acute ear is a better guide than the thermometer as to just how warm to have the cellar. That is, I suppose, if you detect a wrong note try warming or cooling—or both.

AMOUNT OF WATER IN HONEY.

That a Professor (with a big and governmental P) should be unable to tell the exact amount of water in honey, after making a careful series of experiments—well, it rather jars us. How, then, shall poor we'uns believe they *can tell* the more abstruse percentages? Differences reported largely a difference of method, not a difference in the amount of water. We see. Our savants potter away for awhile by some method or other—and then guess the problem. Naturally, we practical folk think we can do our own guessing. When we go to the professors we go for a different article. All the same, we love Prof. Shutt. Honor to the man who says he failed to find out, when that was the case. Far better the doctor who says he don't know what's the matter with us than the one who looks enormously wise and says he knows all about our case, when he doesn't know a thing. But as they have been encroaching on my prerogative of guessing, I'll encroach on theirs and suggest a method. Try how many cubic inches of acetyline gas an ounce of honey will liberate, using honey instead of water, or say half honey and half water. When the amount of water in green wood is to be dealt with by practical folks it falls naturally into two parts: First, the water which can be got out by prolonged drying; and, second, the water which cannot be got out without disorganizing the wood. This second portion is, I understand, a quite large percentage of the whole weight of the wood. I begin to suspect that a similar non-get-outable increment of water in honey is large. Remember how alum, when it seems to be perfectly dry, will, nevertheless, when you heat it a little, dissolve in its own water and become a fluid. When we get around to complete statistics let's have the water in honey reported in two columns, "removable" and "non-removable" water. Page 72.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Transferring—Repetition of Questions.

We've took it—the bee-fever. Besides buying 3 colonies of bees, we got a barrel of bees; have ordered some hives, and when the proper time arrives we want to get the barrel-bees into a hive.

We're absolutely green as to the ins and outs of handling bees; have subscribed for the American Bee Journal, and read the whole of it—ads. and all—but as yet we have seen nothing regarding how we are going to get those bees transferred to a hive, or the proper time for tackling the job;

further, we expect to get the information from you, unless you'll come and do the trick for us. Come, now, give down, and get us out of this scrape. Will watch for reply.

IOWA.

ANSWER—If I was to tell you in full in this department how to transfer bees, I'm afraid the Editor would tell me there wasn't room for it. You see, there are certain things so generally needed to be known by all bee-keepers that they are put together in a text-book, and if there were no such book, and each newcomer had to depend on finding in the journal the things that are contained in the text-book, it would take up a very large part of the journal. You might like that very well for this year, but next year and every year after, the same things would have to be told over and over again, and you'd get mad at the repetition, and want something fresh. In the same way, those who have been taking the Journal before you, would get mad, if space was taken up now with things easily found in a text-book. A good text-book will more than pay for itself by telling you what to do with those three colonies, to say nothing of the barrel. You'll have plenty of time to study it pretty thoroughly long before it's time to do any transferring, and after studying it if you find anything that needs further elucidation, send on a whole lot of questions and I'll take delight in answering them. That's what I'm here for.

Sections Crosswise in the Super.

1. Can we produce as nice, and as much, honey in sections crosswise in the super as lengthwise? OHIO.

ANSWER.—Yes, if the hive is properly leveled.

Feeding at Transferring Time—Keeping Queens.

I expect to transfer a colony from a box-hive to a Danz. hive, fixed with full sheets of foundation.

1. How much may I feed that will not overcrowd them while building comb to receive it?

2. In case a queen is sent me too soon can I keep her? If so, how, and for what length of time? PENNA.

ANSWERS.—1. That depends upon the bees gathering from the outside while they are drawing out the foundation. Don't think of setting them at it before it is late enough for bees to gather from the fields. If they are getting a fair yield of nectar there will be no need of feeding. If it is warm weather in the fall and they are getting nothing from the fields, you can feed 25 or 30 pounds of syrup without danger of overcrowding.

2. You can keep her in the cage a week, two weeks, or more, if the weather is warm, by merely seeing that there is always plenty of food and drink, and that the temperature shall not go below perhaps 80 degrees. Or, you can put the cage between the frames of a colony of bees, and there will generally be some good-natured bees that will feed her. I'm afraid, however, that you are thinking of getting a queen before the weather is warm. Don't.

Hive to Start With—Bottom Starters in Sections—Wiring Frames—Stimulative Feeding.

1. I intend to start in bee-culture and run for comb honey. Which do you consider the best hive for that purpose? And what size?

2. Will it aid, in order to get nice, full sections of honey, to put a starter in the bottom of the section as well as the top? If so, how wide should the starters be?

3. Is it all right to wire brood-frames when only a 2-inch starter is used? Or does it pay to use full sheets of foundation?

4. Which is the best way to feed bees in the spring, to stimulate brood-rearing, in the open air or in feeders?

WISCONSIN.

ANSWERS.—1. I don't know. Bees will do well in almost any hive with proper management. It makes a difference to the bee-keeper, however, whether he has a hive that is easily handled. Perhaps the easiest way to tell you what I think in that regard is to say that in my own practice I am using dovetailed hives with Miller frames. My hives are 8-frame, but unless you give the bees very close attention I feel pretty sure 10-frame hives are better, and I have used both kinds by the hundred. (But don't understand that to mean more than three or four hundred.)

2. Yes, they are more certain to be filled down to the bottom. A good width for a bottom starter is ⅝ inch.

3. It is not worth while to wire frames with such a narrow starter. I believe it pays to use full sheets of foundation in brood frames, by which means you are sure of worker-comb, and your combs will be straight and just where you want them.

4. Probably one can be made to do as well as the other, but with open-air feeding you are not sure which colonies get the benefit, and you are not sure that your bees will not divide with those of your neighbors. Remember, however, that stimulative feeding in spring is a two-edged sword, and it is a safe thing for beginners not to meddle with it at all.

The Queen's "Feelers."

Several times during my work among the bees and queens, I have noticed queens go through manœuvers that inclines me to believe that in a perfect queen the so-called stinger is a feeler that helps her to deposit her eggs so systematically. I would like to know your opinion as to whether this would be possible. I have had no queens sting me, and I have thought that those persons stung by queens happen to have imperfectly developed queens, more on the worker-bee order.

I could as honestly believe that the queen, in perfect development, has a feeler as to believe she has a stinger.

CALIFORNIA.

ANSWER—There hardly seems to be any need of a feeler at both ends; for before a queen lays an egg in a cell she always explores it by thrusting her head into the cell, and unless she can see in the cell—and she can hardly see when she lays at night—it must be that she examines the cell by means of her "feelers" or antennæ.

Solar Wax-Extractor—Foundation-Fastener and Section-Folder.

1. How can I make a solar wax-extractor for melting combs?

2. How can I fasten full sheets of foundation in sections?

3. Send me a simple plan of a section-folder, that I can make myself. NEW YORK.

ANSWERS.—1. The essential thing is a box covered with glass, and it may be of any size, from a small box covered with an 8x10 pane of glass to a house large enough for your family to live in. Then there must be a surface on which to put the combs. This may be of perforated metal to allow the wax to pass through the perforations, or it may be without perforations, the surface slanting so the melted wax will run off. Under this a vessel to catch the wax.

2. If you have only a dozen to put in, you can use a putty-knife. Have the foundation warm enough to be tolerably soft, work in a warm room, and press the foundation hard into the wood. If you have them by the hundred, it may pay you to get a Parker foundation-fastener.

3. O, bless you! I couldn't do that. Don't know of any so simple but what you can buy them for a good deal less than you could make them. But if you think you can't afford to buy one, you can fold sections pretty well without any machine. But if you have a considerable number of sections to fold, I advise you to buy a machine.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

GENERAL ITEMS

Bees Wintering Well.

Bees are wintering well so far, and I hope for a good season this year, although we had a good one last year. D. E. LANE.

Washtenaw Co., Mich., Feb. 13.

Spring Developing of Bees, Etc.

I have been much pleased of late, with many of the suggestions of bee-keepers in the American Bee Journal. Spring developing of bees I believe can be helped much by protecting the single-walled hives by some kind of cover from the cold, blowing winds, and sleety, rainy days of spring. Last spring I covered mine with blankets, oil-cloths, or anything I could get, and tied them on with twine, and I know it helped them very much. This spring I mean to get as much factory-cloth and boiled linseed oil and make a full cover for all hives, and cover all but the entrance.

Another little article I find very useful is a little scraper made of the section of a field-mower; pierce a hole in the center and rivet a $\frac{1}{4}$ or $\frac{3}{8}$ inch rod 10 inches long for a handle; it dresses up mussy frames and hives nicely.

Another thing I use for brushing bees off combs is a turkey-wing; it far excels all the brushes I have tried. R. MCCRADIE.

North Dakota.

Think Honey Made by Man.

This is not a good locality for bees, only about one year in 4 or 5 that they pay for the work done; about enough honey produced to create an appetite for that kind of sweet.

I have been very much interested in "The Truth About Honey."

Several times I have been in town when men would call my attention to the grocers' nice display of comb honey, and declare they knew some man made it. When I would tell them it could not be done they would look at me pretty sharp, and walk off, as much as to say, "You belong to the ring." I have advised the grocers to order second grade, and if they were too white and clean, to rub them with wax and dirt until they looked like the ones I sold them. JAMES COE.

Van Baren Co., Iowa, Feb. 14.

Shade for Hives.

To the bee-keepers that are looking for a pretty, cheap and green (in season) shade, that can be planted in any desirable place around your house or lawn if there is soil, I wish to offer the following:

In looking over the old and latest American Bee Journal, some of the bee-keepers complain about the combs melting in the hot sun, etc. Others want some good, cheap shade. I've had this cheap, pretty shade for the last two years and I challenge any one to show a better adapted and cheaper (hive) shade, (that can be sent through the mail or express, Mr. Hasty) for less money, and less work. After being planted it will come for years and stand upright, and make the finest shade just at the right season; after frost it will cease to shade the hives until the next summer, then it will grow up in the same place.

Bee-keepers who do not live on the same

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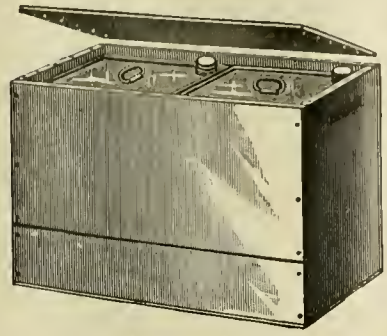

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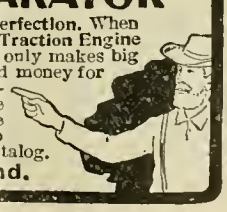

M. RUMELY CO., La Porte, Ind.

place every year, or whose hives must be moved in winter or early spring will have the same good shade, if the tubers are transplanted.

I am not a seed-merchant, nor have I colonies by the hundred, but I am a stock-raiser and farmer, and have bees. My hives are all the Simplicity, 16-frame (double hive) run for extracted. They rest on 8 pieces one foot apart, in straight rows facing east, and between each two hives in the center I plant artichokes, (the white French kind), and leave a path wide enough behind the hives to walk and work in; plant a solid row of artichokes (plant eyes about 10 inches apart). About extracting-time the artichokes between the hives and behind the hives will form very nearly two green walls, shading the hives from the south and west, and bees from other hives, and those hives in rows behind will not bother very much. Most of my bees are hybrids and blacks.

Those of you that have no shade for the bees, think of yourselves, if your house would get too hot in summer time and also too hot outside and no shade to go to. Try a few artichokes this summer; it will cost you only a few cents for each hive, and see how contented the bees will hunt up the shade; and the hive itself will be in pretty, green—and, last but not least, cheap—shade.

I would like to hear Mr. Hasty's opinion on this. ALBERT WILTZ.

Atchison Co., Kans., Feb. 15.

Fears Spring Losses of Bees.

I have an interest in 5 bee-yards of 100 colonies each, but I could not keep bees without the American Bee Journal.

I am afraid we shall have heavy losses this spring, as the bees have not had a flight since Dec. 13.

We did not get any fall honey last season, and had to feed quite heavily, consequently they did not breed as late as they should have done. ELMER E. TURNER.

Tioga Co., Pa., Feb. 13.

Bee-Keeping in the Yakima Valley.

Perhaps a few remarks in regard to bee-keeping in Washington would be of interest to some of the readers of the American Bee Journal, especially to those who may be thinking of coming to this State with the view of engaging in bee-culture.

To one unacquainted with the conditions here in the Yakima Valley it would appear to be a bee-keepers' paradise, but, after two seasons' experience (as in the case of the writer), one may think differently.

In my experience I find the weather conditions to be one of the most, if not the most, serious drawbacks.

Bees winter in fine condition (as a rule) on the summer stands in single-wall hives, the only trouble being in the large consumption of stores on account of much mild weather.

In the spring there are some wild blossoms from which the bees gather pollen and some honey, then comes the fruit-bloom, and if the weather is favorable quite a large quantity of honey is gathered. Enough perhaps would be gathered to build up the colonies strong and have sufficient to last them through the long honey-drouth that lasts about two months or until the first bloom of alfalfa. But I find that even though there be an abundance of fruit and other bloom the bees are unable to do much on account of the weather conditions. There may be plenty of nectar in the flowers but our little workers would need the wings of a buzzard and a fur coat to enable them to carry on their work in the high, chilling winds.

Usually in the morning it is nice and warm; the bees rush out and begin rolling in the honey; everything looks favorable for a big day for the bees, but after an hour or two a heavy wind begins to blow from the west from off the snow-clad mountains of the Cascades, and there is no more honey-gathering that day. Last season that was the condition all through fruit-bloom; the bees consumed what stores were in the hives and barely gathered enough honey to keep them alive. After fruit-bloom for nearly two months they were actually in a starving condition. Many

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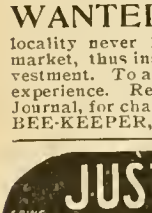

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colonies had to be fed to keep up their strength until the blooming of alfalfa.

During the first crop of alfalfa the weather conditions were but little better than during the first part of the season, but the bees gathered enough honey to build up strong and put them in good condition for the second crop, from which we get our main honey-flow. The cold winds ceased to blow and the weather was hot. The flow began July 4, and was so gradual and ended in the same way so that one hardly knows when it begins or where it ends. But it generally ends when the alfalfa is cut, but it is not all cut at once.

I secured from 75 colonies an average of 70 pounds of comb and extracted honey. If the weather conditions were favorable I have no doubt that twice or three times that amount could have been secured.

So far I have told only about the Yakima Valley as a bee-country, and there is much more to tell, but space will not permit. This article may put rather a discouraging aspect on bee-keeping in this Valley, but take it all in all bee-keeping has a bright future for the practical bee-keeper in the Yakima Valley.

No careless methods will do here. Only those who make a careful study of the conditions and seek for practical methods to overcome the difficulties can ever hope for success.

An effort is being made to organize, or reorganize, the Washington State Bee-Keepers' Association. I understand there was such an organization several years ago, but because of things not being harmonious it became a thing of the past. VIRGIL SIRES.

Yakima Co., Wash., Feb. 10.

Wintering in an "Ideal Cellar."

I have just put my bees in what Mr. Root calls an "ideal cellar," and find the temperature 25 degrees, while in the open air it is 30 degrees. A fall of 10 degrees does not change the temperature much. Every hive is clean, and the dull, low hum, always heard when bees hibernate perfectly, seems about the same in all parts of the cellar. Very few bees flew out while I was sweeping up the dead, which has been about the same every month for the 3 months.

The air is sweet, and the prospect now is that they will go through the next 2 months successfully. T. F. BINGUAM.

Clare Co., Mich., Feb. 17.

How the Bees are Wintering.

Bees in this locality have been confined to their hives for nearly 3 months, and being altogether wintered on their summer stands we are beginning to feel uneasy about their coming out in good condition in the spring. It being a nice day and the sun shining bright, but the bees not flying, and the thermometer registering only 28 degrees above zero, I thought I would take off the covers and give the sun a chance to dry off the cushion filled with cut rye-straw. I found the cushion frozen some to the cover, and very damp on top, but over the brood-chamber not the least sign of moisture, but warm and dry. After having removed two of the covers I came to the conclusion they would better be left alone until the bees take flight on a suitable day, and then give the cushion exposure to the sun.

With over 200 colonies in 4 yards my winter losses have never been over 5 percent. I find that meddling with the bees or their hive, when they are not flying, is very risky and detrimental to the colony.

I have just been reading in the February number of the Leipziger Bienen Zeitung, that the temperure in Germany has been mostly

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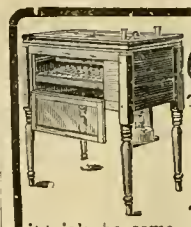

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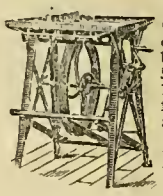

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too moderate for the bees. Liedloff, one of the editors of that paper, does not approve of confining bees in the hive during the winter (practiced by some noted bee-keepers in Germany). Mr. Liedloff claims that the construction of the honey-bees is such that they can do without a cleansing flight for months, but must have a chance to leave the hive when the weather is favorable in winter.

I would like to add that I use the double-wall hive, dead-air space around the sides and bottom, with a cushion on the top only.

HERMAN COOK.

Wyoming Co., Pa., Feb. 17.

King-Birds Long-Tongue Bees.

My bees did fairly well last summer, averaging 98 pounds to the colony, mostly red clover honey. I think they would have done better only for losing quite a number of queens, which I found out happened by their being caught by the king-birds. I read an item in last week's Journal, that the few bees caught by king-birds did not amount to much, but I think it amounts to a great deal. I positively know that king-birds catch queens, for I was out one day with a shotgun watching for Mr. Bird, and just when the bird caught a bee, I let go, and when I picked it up I found in its bill a drone and queen hanging to it yet alive, only one wing being torn off by the shot. I took it back to the colony that swarmed, and put it at the entrance; there came about 20 bees going for her like they meant to pull her to pieces, but that was not their idea, for they pulled something away from her, and then everything was all right and the queen marched right in and the bees were as happy as could bee. Since then I have no mercy for king-birds. I may be wrong, but I think they are not a bee-keeper's friend.

In regard to long-tongued queens, I can say a word. I think we should try to rear nothing but long-tongued bees. I have watched the bees on red clover. An Italian bee will alight and go from one nectar-tube to another on one blossom, and a black or hybrid bee will alight and fly from one blossom to another until they find the one with the short tube, then they will stick. That shows that the Italian bees can out-reach them.

P. H. HARBECK.

LaSalle Co., Ill., Feb. 12.

Don't Spit in Your Hives.

Dr. A. W. Smyth says in the Irish Bee Journal:

"Woodhead states on the authority of Vignal that the *bacillus alvei* is an inhabitant of the human mouth—that great home of the bacteria where Leuwenhoek first discovered them. It is well, therefore, in working among bees to remember that human saliva can infect, and can start foul brood, and if the conditions are favorable to the bacteria, can destroy all the colonies in the apiary. A spark, if it can ignite the fire, is just as effectual as a torchlight.

That Bogus Honey.

In your issue of December 12th, "Watson" in his Chicago Business Letter says that "law stops bogus honey." He tells us that "genuine honey has a brown coloring around the cells, while glucose honey is perfectly white." I have been keeping bees almost 20 years, and my bees have produced tons of perfectly white honey in that time, and I never saw a pound of glucose to my knowledge. Sometimes I neglect to take off my comb-honey as soon as I ought, and it becomes travel-stained or has a "brown coloring around the cells" and then I have to sell it for a less price.

While the item does not say so it gives the impression that a carload of comb honey was

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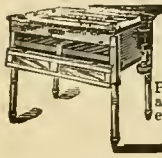

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A Fortune in a Name—Under the keen and exacting conditions of modern business much more depends than formerly upon the name adopted for the business or the article offered for sale. We feel like congratulating the Clay Phelps Incubator Co., of Cincinnati, Ohio, who are advertising with us on the name "All Right," under which they are making and selling their incubators.

One or two points we wish to call attention to. One is the plan on which they sell their machines, namely, 10 days' trial. This is done to create the fullest possible confidence on the part of the public. If the manufacturer shows his own confidence in his goods, it's bound to find its answer in greater confidence on the part of the buyer. We do not remember to have seen in any catalog a clearer statement of the construction and advantages of an incubator than in the "All Right" catalog. A careful reading of these pages impresses one most favorably. In fact, it is hard to imagine how it would be possible to build a machine more conscientiously than the "All Right." The catalog is handsomely illustrated and is sure to interest and aid any one who is about to buy an incubator. Write the manufacturers to-day and get one of these books free. Address, Clay Phelps Incubator Co., Cincinnati, Ohio, and mention this paper.

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condemned in Chicago, because it was white, and contained from 50 to 60 percent of glucose. Without doubt extracted honey has been adulterated by unprincipled dealers, but I think there is some mistake about this item from Chicago and it will work an injury to bee-keepers, who, as far as I know, are all in favor of the pure-food laws.—E. TARR, in the National Stockman and Farmer.

"The Jouncer" for Freeing Extracting Supers of Bees.

One of the chief up-to-date appliances in my apiary is known as a jouncer. Some four or five years ago I described, with pen and pencil, my first jouncer, and it was a very crude affair compared with the one in use at present. The photos show the device and how to use it. It will be observed that it is made very strong, made mostly of tough fir, and put together with bolts, and a cloth tray is adjusted under the hive to be jounced.

When it is desired to jounce the bees from a super it is adjusted as in photo No. 1, and the whole jounced against the ground. The sudden jar, or a few of them, send the bees all into the tray. The latter can be removed as shown in Fig. No. 2, and the bees dumped on the top of the frames of the colony.

In order to cushion the lower ends of the corner posts of the jouncer they are chambered off to a point. As there are no stones in the apiary, when the jouncer strikes the ground the jounce is broken just enough to prevent the combs from breaking.

The benefits derived from this method of getting bees off the combs are all in the line of rapid manipulation. In the American Bee Journal not many months ago, Mr. Davenport caught on to this idea and applied it to the common Langstroth hive. The best success, however, is attained with a shallow brood-chamber; and the only objection I have to it is, when there is much thin honey it slops out

FIG. 1.—RAMBLER'S JOUNCER FOR CLEANING SUPERS.

FIG. 2.—RAMBLER'S JOUNCER AND HOW IT GETS THE BEES.

upon the bees; but, of course, it is best to wait until the honey is thick. It is hard to make people believe that any new way is better than their way; but as my former good seed sown brought forth some good results, I sow again, and again watch the results. Whether bee-keepers use the Rambler's jouncer or not, I hope the bee-keepers will discard the old, obsolete use of a brush. Bees can be shaken off the combs clean enough. In Central California but few brushes are used.

I have great hopes for the shallow extracting-super. Mr. Davenport says the jouncing principle is worth $50 a year to him, even with the standard frames. Now, I would give $50 for a method that will enable me to extract a whole shallow super without removing the frames. Can it ever be done?—RAMBLER, in Gleanings in Bee-Culture.

Keeping a Record.

Considerable has been written in the past on the subject of keeping records of each colony of bees. Dr. Miller and Roots have had several arguments in which the Doctor was in favor of a book record and the Roots preferred the little slates, but years of experience have taught me that they do not completely answer the purpose for which they are intended. By using abbreviations we can keep a record on these extending through a few months or even one season, but of what use is this as a record? Of course, they are convenient in keeping a temporary record, but a record of a colony in order to be of value should extend through a number of years, for how are we to know what colonies (or the strain of bees from which queen) have averaged the best through a number of years? We can not trust this to memory. If we could, records would be useless.

I now keep a book record, and said records run from year to year so that I can trace the ancestry of any queen in the apiary back to the time when this record commenced.—S. E. MILLER, in the Progressive Bee-Keeper.

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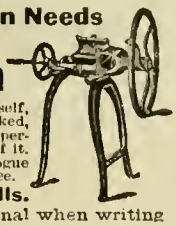
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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Feb. 18.—There has been a decline in the market on comb honey of one cent per pound since the month came in. Best grades of white now slow at 14c; sales chiefly at 13½c with some Western choice at 13c; no buckwheat comb offered, and other dark grades are meeting with little attention, prices ranging from 9@12c. Extracted is steady, white, 5½@7c, according to quality and what it is gathered from; amber, 5¼@5½c; off grades at 5c. Beeswax wanted at 30c. R. A. BURNETT & CO.

ALBANY, N. Y., Feb. 21.—Our market has not been so empty of comb honey in a long time. Fancy white comb, 15@16c; No. 1, 15c; dark and buckwheat, 13@14c. Extracted, buckwheat, 6c. Beeswax, 30c. H. R. WRIGHT.

CINCINNATI, Feb. 7.—The honey market has been rather dull this year. Comb honey is selling fairly, and brings as follows: White clover, 15c; lower grades from 12½@14c. Extracted honey sells very slow, the lower grades bringing 5@6c, and fancy, 6½@7½c. Beeswax, 28@30c. C. H. W. WEBER.

BOSTON, Jan. 20.—Strictly fancy comb honey in cartons, 15½c; A No. 1, 15c; No. 1, 14½c; very little No. 2 to offer; stock nominally running No. 1 and A No. 1. Extracted, light amber, 7½c; amber, 7c; Florida honey, 6½@7c.

Our market continues somewhat dull in the demand for honey, while stocks are ample for the balance of the season, unless there should be a much larger demand than we at this moment anticipate. BLAKE, SCOTT & LEE.

NEW YORK, Feb. 8.—There has been very little movement of late in comb honey, and while there is no buckwheat on the market to amount to anything, there is sufficient quantity of the different grades of white honey. The demand having been slow of late, prices have had a downward tendency and are likely to remain so during the spring.

We quote: Fancy white, 14c, and exceptionally fine stock at perhaps 15c; No. 1 white at 13c; amber at 11@12c. Extracted remains dull at unchanged prices. Arrivals of late are quite plentiful of all the different grades. Beeswax firm at 28@28½c. HILDRETH & SEGELKEN.

SAN FRANCISCO, Feb. 12.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Considering the limited quantities offering there is a fair trade in progress, both for shipment and local account. Quotable values are without change, but market is moderately firm at the prevailing figures.

WANTED. EXTRACTED HONEY—either large or small lots; parties having same to offer, send samples, and best prices delivered at Cincinnati, Ohio. We pay cash on delivery. THE FRED W. MUTH CO., 10Atf Front and Walnut Sts., CINCINNATI, O.
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Astonished the Editor.
We advertised our Rural Free Delivery Box in the "Country Gentleman" of Albany, N. Y. They ordered a box "for use in the office." Here is what they say of it:
"We had no idea, till we examined for ourselves, of the immense return that this company makes for the petty sum they charge, $2.00, transportation prepaid. There is positively no excuse for using anything else on a rural route."
Of course we don't want all the business, but there is "room for a few more." Write us.

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Tip-Top Glass Honey-Jars

The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.

If you try them once you will likely use no other kind of top or sealing arrangement for honey jars.

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144 & 146 Erie Street, - CHICAGO, ILL.

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I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

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Langstroth on the Honey-Bee—Revised,

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Here is something that will interest you.

"The Danzenbaker Hive I think will take precedence over all others. I am delighted with it, as it is simple, and easily manipulated."

R. H. PEPWORTH,
Pietermaritzburg, Natal, South Africa.
Nov. 30, 1901.

If you buy the Danz. hive you will find a ready market for your honey. Comb honey in Danz. sections has never yet been held because of "little demand."

EXTRACTED HONEY!

You will need good hives, smokers, knives, and most of all, a good honey-extractor. Root's Cowan Rapid Reversible Extractors are used everywhere, and always acknowledged to be the best. Be sure to get one of our make.

BEESWAX?

You should have the best wax-extractors, else large quantities of wax will be left in the refuse. See what one extensive and practical bee-keeper says of the **ROOT-GERMAN STEAM WAX-PRESS:**

For over 20 years past I have had to render up old combs or cappings in larger or smaller quantities, and my experience has been extensive, for I have tried faithfully almost every known method to get all the wax out, but have never succeeded to my satisfaction until recently. I got of you a German wax-press, that comes nearer accomplishing that object than any thing I have ever tried. I am more than satisfied with it, for, if used according to directions, there is little if any wax left in the refuse. Any one used to the old methods will be astonished at the results obtained. In this press you have given those in need of it the best thing, to my mind, you have ever brought out, and I really believe all who try it will pronounce it a real treasure. There are other points of advantage that I could mention, one of which is its perfect safety—no boiling over and setting fire to every thing, and it can be left alone without care for quite a time, and every thing can be kept neat and clean, and it occupies very little room. E. T. FLANAGAN.
Belleville, Ill., Dec. 12.

Root's goods are for sale everywhere. See list of jobbers and agents in the January bee-journals. A full list of local agents sent you on request. We will also send you a little book, "Facts About Bees," describing the Danz. hive, and our catalog, on request.

WANTED.—Beeswax. Price, 28c cash or 30c in trade for pure average beeswax, delivered here. We want also a car of white sage extracted honey, also large lots of WHITE COMB HONEY in DANZ. sections.

THE A. I. ROOT CO., MEDINA, OHIO, U. S. A.

☞ **GEORGE W. YORK & CO.,** 144 & 146 Erie Street, CHICAGO, ILL.,
are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO.
Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MARCH 13, 1902.

FORTY-SECOND YEAR No. 11.

WEEKLY

MR. F. W. HALL AND APIARY, OF SIOUX CO., IOWA.
—(See page 162.)

THE AMERICAN BEE JOURNAL.

PUBLISHED WEEKLY BY

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SPECIAL CORRESPONDENTS — G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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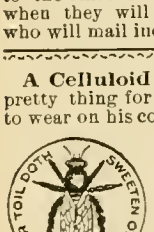
☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

MR. JAS. A. GREEN of LaSalle Co., Ill., is moving to Mesa Co., Colo, mainly on account of his wife's health. He will keep bees there. Illinois can't afford to loss many such bee-keepers as Mr. Green. But our loss will be Colorado's gain. Mr. Green has an excellent article on page 166.

ABUNDANT RAINS are being reported from Southern California. These will help to insure a honey crop. Some day all of California's best crops of honey, and all the honey produced elsewhere in this country, will not be enough to supply the demand. You see, we have faith in the future honey-business of our country. But be sure to produce only the best honey possible, both in quality and flavor.

MR. THOMAS G. NEWMAN, for many years editor of the American Bee Journal previous to about ten years ago, and now living in San Francisco, writing us Feb. 27 had this to say concerning the condition of his eye-sight:

"I am glad to say that after having suffered terrible inconveniences during the past three years by paralyzed optic nerves, I am beginning to see some little improvement, and have much confidence that my vision will soon return. For you know how much it is needed in such work as I have to do. To depend upon the eyes of others for all that I can learn about the outside world has been a great affliction on account of its long continuation."

Mr. Newman's hosts of friends will be rejoiced to learn of the improved condition of his sight, and hope for speedy as well as entire recovery.

Mr. Newman is still connected with the bee-fraternity through being a member of the Board of Directors of the National Bee-Keepers' Association.

THE APIARY OF MR. F. W. HALL we present on the first page of this number. Here is what he has to say about it.

As promised some time ago, I send you a picture of my home and bee-yard. The general appearance of the latter gives one the impression of a veritable weed-patch, or African jungle, which former will not be much amiss. "Too many irons in the fire" made it impossible to keep some from burning, so I let that burn which did the least harm. Thus the blue-grass, timothy, clover and several kinds of weeds, had their own way save what I tramped down passing two and fro in the various manipulations of the bee-hives and fixtures, which, up to the time of photographing (July 4th), and some time afterward, was a good deal.

As you look at the picture you are looking toward the east, the sun at the 4:30 o'clock mark, and the mercury registering 109 degrees in the shade. The large-leaved plant in the foreground is rhubarb, the trees on the right are apple, cherry and three peach trees, south of which row is sweet corn (some 8 or 10 rows) and south of which is the garden; then the house and lawn (not in sight). The north row are apples, north of which are six other rows and all heavily loaded with apples, but not discernible. At the further end is a plum thicket, which extends clear across the east end of the orchard. A heavy row of willows some 25 feet in hight border the north side of the orchard, and extend clear across the north side and east end of the seven-acre lot, which give affective wind-break.

The old building in the background is a hen-house, which I expect to move to another location and build a bee-house with wintering cellar underneath. You will notice two (one on either side) milk-stool looking arrangements hanging in the trees; these are simply sticks of stovewood with a board nailed on one and a long wire hook to hang and handle it with. I smear them occasionally with the slum-gum from the wax-extractor. To use them, if they (the bees) do not voluntarily alight on them, (when I see they have begun to cluster), I hang the swarming-block as near as possible in the midst of them, and four out of five swarms in 1889 and 1900, used the blocks, but this year (1901) only four or five out of 25 used them; but I took no pains to induce them, as I found they were inclined to go to the evergreens and a small cherry-tree in the garden, and it was easy to hive them from the trees.

The bees are not all in sight, some of them being back out of range of the camera.

I have the 8, 9 and 10 frame Langstroth hives, and three or four box-hives, which I have neglected to transfer. I like the 10-frame best for my locality, but may change my mind in time.

That pile of honey, 60 sections, (not all in sight but equally well filled), was just taken from one colony, there being thirty-two 4x5 no-bee-way Danz. sections, and twenty-eight $4\frac{1}{4}$x$4\frac{1}{4}$ bee-way sections. The bee-way sections had separators between, except one separator which is left out, and two of the sections on the left show the result. The colony which produced the above, produced 250 such, and a super of extracting frames of honey and went into winter quarters in a 10-frame hive, bees and honey weighing 69 pounds. A daily record of the loss and gain was kept of this colony from spring until fall, but I cannot give the record, as a part of it was kept on the hive-cover and was packed away on a hive in the cellar before taking a copy. I do not know anything about the length of tongue of the bees of this colony, only that they worked red clover; but so did all the 58 colonies, so far as I could tell.

Aside from the above gains this colony cast a swarm June 5, which united with another swarm from another colony. The old queen being clipped did not go with the swarm, but went back in the old home and tore down the queen-cells and did not swarm any more. They were making a gain of five to seven pounds per day, but on this day they were $4\frac{1}{2}$ pounds lighter.

My bees fairly tumble over each other working on sweet-corn blossoms (tassels), and I am satisfied they were after something else than pollen. F. W. HALL.
Sioux Co., Iowa.

CONVENTION NOTICES.

Utah.—The Utah State Bee-Keepers' Association will hold its annual convention in the City and County Building, Salt Lake City, April 5, 1902, at 10 a.m. This promises to be an interesting convention. All are invited. It is desired to form an exchange for the protection and benefit of our bee-keepers. Come and aid a good cause. It is expected that every county will be represented. J. B. FAGG, Sec.
E. S. LOVESY, Pres.

Chicago.—Some amendments to the constitution of the Chicago Bee-Keepers' Association have been proposed, and the Executive Committee has ordered them to be brought before the next regular meeting for decision. It is proposed to change the name to "Chicago-Northwestern Bee-Keepers' Association;" and to change the time of meeting to "the first Wednesday and Thursday of December, or such other days as may be selected by the Executive Committee." The object of this is to make Chicago the rallying point for the whole Northwest, or so much of it as is likely to run to Chicago to trade or attend expositions. I believe our association is now the largest local association in America. We remitted to the National Association for 62 members. Our mailing list is about 300, or about ¼ of those in our territory. HERMAN F. MOORE, Sec.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., MARCH 13, 1902. No. 11.

Editorial.

Too Much Theory is the complaint Editor Hutchinson has had from some of his readers. Children don't always know what's good for them, Mr. Hutchinson. Americans are nothing if not practical. A man may be a good engineer without knowing just how a locomotive is built; but he will be a better one if he knows just how the different parts of his machine are put together.

Comb Honey in Barrels.—G. A. Deadman, in the Canadian Bee Journal, gives as one argument in favor of shipping comb honey in barrels the saving of freight. Honey in barrels goes as second-class freight, and as the classification does not specify extracted honey, he ships comb honey at second-class rates, the only way in which he can get so low rates, as will be seen by the following table:

Honey in glass, packed in cases.....1st class
Honey in cans, not boxed.....1st "
Honey in cans, boxed or crated.....2d "
Honey in kegs or barrels.....2d "
Honey in comb, boxed, owner's risk..1st "

Consumption of Stores, says M. Bellot in Revue Int., in well-protected colonies, is sometimes not more than one kilogram (2.2 pounds) for the months of November, December and January; but as soon as the bees are in activity, or even simply in movement, the consumption increases in an incredible degree. The effect of activity upon the amount of stores consumed is strikingly shown in the many swarms that he ships. For a swarm of nearly 4 pounds he calculates a consumption of 17 to 20 ounces the first day, and a little less upon succeeding days. A swarm of 4½ pounds during a journey of 11 days consumed somewhat more than 2½ pounds of honey. During the latter part of the journey the bees became accustomed to the disturbance, and quieted down so as to consume less.

Waste of Time at Conventions receives some vigorous handling from F. L. Thompson, in the Progressive Bee-Keeper. He says:

When I get up to talk I feel like a dull and rusty augur boring into tough wood. So when I listen to the false starts, the twice or thrice told phrases and the indecisive expressions that themselves make repetition necessary. I feel that we are all about in the same box anyway—if I think about it at all. But what does make me feel as if little ants were crawling all over me, is for and easy talker—one who *can* say just what he wants to—to get up and deliberately ramble all over creation, just as if he were in a corner grocery.

Also that when bee-keepers "drive many miles to a convention, or pay railroad fare and hotel bills, they have a right to expect that the limited time of the convention itself (not speaking of the intermissions which can be spent socially if desired,) shall be devoted to that which conventions alone can give; and that anything else, no matter how valuable, which can as well be procured in other ways, shall be rigorously excluded. The presiding officer should consider it one of his chief duties to keep the discussion business-like to the point."

Large Ventilation for Bee-Cellars is advocated in Gleanings in Bee-Culture by T. F. Bingham. Instead of a 3-inch ventilator-flue, 16 inches is better. He says:

My first winter's experience with a three-inch ventilator-flue in my cellar demonstrated conclusively its insufficiency. My hives, like Mr. Doolittle's, became charged with water; and, while not painted, they do not fail to show that they have been five months in a warm, damp atmosphere. A hundred colonies of bees consuming 400 pounds of honey per month would liberate not less than 35 to 40 pounds of water per week. Just suppose two pails of water to be thrown into an air-tight cellar once every Sunday for five months, said cellar to be at a temperature of 40 to 50 degrees.

Size of Hives for Idaho.—From the report of the Idaho convention given in the Rocky Mountain Bee Journal, the following is taken:

Pennington Bros. found that the average good queen could occupy 13 frames before the honey-flow. On these large hives comb-honey supers holding 40 4x5 sections are used, with shallow extracting combs when running for extracted honey. They found that such a colony would fill 40 sections as quickly as an 8-frame colony would fill 24 sections.

Mrs. Paul preferred the 8-frame hive for comb honey.

E. F. Atwater gave the bees 10, 16 or 20 frames before the flow and then contracted to 8 or 10 frames when the flow began, with a preference for 8 frames.

Wax-Presses and Solar Extractors.—Wax-presses have come prominently to the front lately, but R. C. Aikin thinks there is still use for the solar wax-extractor. It seems to be a great waste to depend on the solar for old combs, and when it has done its best on any combs there is still paying work for the press, but Mr. Aikin, in Gleanings in Bee-Culture, expresses his view as to the further need of the solar in these words:

A press is a necessity and a money-saver.

You will now say, if we must have a press, why build a solar? I will tell you. There is scarcely a bit of comb, burr-comb, cappings, or whatever you want to melt, but has in it more or less honey. If you put these through the water process in either bag or press, you lose this honey. The saving in honey that can be used in feeding or in vinegar-making, and even for table use, will soon pay for several solars. It also saves time and loss in other ways, and the first run of wax that is gotten by the solar is brighter and nicer than can be had by the wet process. One who has never used a solar will have little idea how much honey can be accummulated by means of the solar—just that much saved. The slumgum taken from the solar can be worked by the press later at your convenience.

To this Editor Root replies:

I myself believe, and have so stated, that the solar wax-extractor has its place. I believe that nearly all refuse, so far as possible, should be put through it first, because the wax that the sun renders out is of a superior quality. But the slumgum from the solar and *old* combs should be put through the wax-press. A bee-keeper who thinks he can get along without a press of some kind is probably throwing away gold dollars by the handful. All refuse from the sun machines should be by all means saved.

Importance of Even Temperature in bee-cellars is urged by R. F. Holtermann in Gleanings in Bee-Culture. Even the variation of one degree causes a change in the position of the bees, and this activity is detrimental to the best wintering. One particular colony has been closely observed, and of this he says:

At 40 degrees the cluster contracts sufficiently to draw all the bees above the bottom-boards, and out of sight when you cast your eye through the opening made between the bottom-board and body by blocking up the brood-chamber three-eighths of an inch. At 41 a few bees appear below the bottom-bar; at 42, still more. This condition has prevailed all winter. That cellar, I believe, has not varied 4 degrees all winter, and it affords a beautiful object-lesson. Variations in temperature cause, as per above (contraction and expansion of the cluster), activity; and to husband vitality and stores, this is not desirable.

Acid in Wax-Refining.—An important correction is made in Gleanings in Bee-Culture, saying that instead of 5 to 25 percent, there should be only about 1 percent as much acid as water. Editor Root says:

It is our daily practice in refining the commercial product as we buy it, to use half a gallon of raw acid to two barrels (60 gallons) of water. This would be less than 1 percent of acid to water. If the wax is very dark we make a slight increase. Very light wax would require less than half a gallon. In refining commercial wax anywhere from ½ to 1½ percent of acid may be used; but in the handling of old, dark combs, especially slumgum, it will be necessary to increase the amount to perhaps 2 percent; but in that case it would be better to render the wax again in clean water so as to get out the slight traces of acid or acid smell. The ¾ or one percent solution of acid never leaves any trace, so far as we can discover, in the wax.

Convention Proceedings.

Report of the Michigan Bee-Keepers' Convention.

BY JAS. A. DART, SEC.

The annual meeting of the Michigan State Bee-Keepers' Association was called to order by Pres. Geo. E. Hilton, at 1:30 p. m., Jan. 1, in Petoskey.

Mr. Hilton congratulated the Association on the successful results of the last meeting in procuring the enactment of a foul-brood law.

The following communication, received from Mr. T. F. Bingham, of Clare Co., Mich., was read:

Safe Wintering of Bees in Northern Michigan.

Regretting that I cannot be with you I have decided to bring before our Association a feature in the management of bees which, while perhaps not strictly new, will afford at least a sense of novelty. I will, with your permission, request that you take up the subject of safe wintering in this Northern country. I define the location, as our wintering must ever be our great danger.

Young queens found laying in October are a danger, and as they are so determined to lay there seems to be no other way of disposing of them but to kill or remove them—the bee-keeper must make the decision, even though the time seems inopportune.

One colony with a laying queen in a winter repository will jeopardize the whole apiary, especially those colonies nearest to it. In looking over my bees preparatory for winter, about October 1, I killed all queens found laying, united their bees with other colonies having plenty of bees and in all respects No. 1.

It has been argued that late-hatched bees were the bees to pass the winter; all of which may be true. But those bees must all be eight days old long before going into winter quarters.

All this will lead up to the consideration of what queens will be best adapted to winter. There is but one answer, if the premises are sound, viz.: Queens that have stopped laying when the honey season stopped. Any queen that has not settled down to matronly ways, and does not go into hibernating ways as other bees do, cannot be trusted. Any queen that does not do this will surely keep the colony in commotion long after every bee should have gone into hibernating conditions and deepest repose.

You may call to mind the winter losses of years ago, when we had late-fall honey, and concluded it was late honey that caused the losses. A late honey-flow caused late brood and late supersedure of queens, and these young queens kept the colony breeding, and dying, and worrying others, and the whole dwindled, and dwindled, and dwindled away.

Again, you may call to mind that all spring-dwindled colonies have more brood than the bees can care for. Many reasons have been advanced for these conditions. I, of course, cannot explain as clearly as if with you, but I trust I have said enough to give a plain, clear understanding of the idea that our winter losses are not entirely due to cold or poor honey.

My bees are all wintering on buckwheat and other late honey, and dying much less than last winter, when, at this time (January 1), they had used nothing but granulated-sugar syrup.

One thing above honey is the hibernating rest. If that is broken by brood-rearing, the great essential of long-continued existence is absent, and premature death takes place. Temperature has much less to do with hibernation than has been supposed. The air does not require to be cold to cause bees to hibernate. When the honey-flow stops the queen is three months' old, hibernates, and the whole colony goes into winter quarters, just as do the "ground hog," snakes, etc. It is not a matter of atmospheric temperature, but of food conditions and the unerring instincts of the bees.

I don't think I ought to have written "unerring"—so many have had so much faith that the swarming instinct could be evolutioned out of bees, etc. Any poor season will wipe out the swarming instinct for that year.

I believe you will have a delightful meeting and a profitable reunion. T. F. BINGHAM.

Mr. Bingham's subject was then discussed as follows:

E. E. Coveyou says he does have serious winter losses, and advocated ventilating by opening the doors and windows at night, thus keeping the cellar cool. He says 8 per cent is his heaviest loss; usually much less.

D. S. Kitson wants young bees for winter, and ventilating the same as Mr. Coveyou.

Mr. Bacon put 36 colonies in for winter one year ago; lost one colony; no late swarms, old bees; put in building. One winter he covered six colonies with straw and lost two from lack of stores. He thinks it is not a hard problem to solve in this region. He wants plenty of old bees, and thinks that wintering in a building is best for early building up.

Geo. H. Kirkpatrick thinks the important part is to requeen in July. He put his bees into the cellar with 25 to 30 pounds of sealed honey per colony; hives with no bottom-board, and had very light losses from wintering.

Ira D. Bartlett kept bees seven years, and wintered them out-doors. He never lost a colony until last winter; that one starved. He gives about 30 pounds of honey put up in the latter part of September; makes winter hives containing about four colonies each, with three-inch space in the bottom; takes off covers and then puts on a piece of carpet, kiln-dried planer-shavings, two inches kiln-dried sawdust, then eight inches planer-shavings; gives dead-air space in front, sort of portico and board, and packs over with snow.

Mr. Kirkpatrick one winter put 63 colonies into a pit on a side hill—8 inches of straw over scantling, no bottom-boards, ducking over brood-frames, straw, then dirt—then straw and dirt again; he took out 60. The only ventilation was at the lower end of the pit, of a 4-inch wooden frame and wire netting over the opening. Straw was under, between and over the hives; boards over to shed rain.

Mr. Hilton says such pits are successful only on sandy soil, not in clay soil.

C. F. Smith had 22 years' experience both in and out of cellars, and in pits, and says cellars are noisy and bees hear the noise. He thinks, however, a cellar is the place. Beginners often have success out-doors, but will have a year come that will change their ideas. He doesn't see much difference between using absorbent or a cover over the frames. Last winter he accidentally knocked a cover off of one, and this colony wintered the best of all, but it was a very strong colony. He thinks after this he will take both bottom and top boards off, but have some heat-retainer, as burlaps and chaff.

Mr. Hilton thought best to leave the bottom off and have a top covered with a pillow of chaff.

Mr. Kitson asked to have discussed in this connection double and single-walled hives.

Frank Erdt thought chaff hives best, but does not like cellars; he thinks we ought to keep snow crust opened.

M. M. Hungerford says when he first came North he made double-walled hives by digging a hole in the snow; in spring he found one-foot space around the hives. He has had 20 years' experience in keeping bees, and never lost a colony in winter. Mr. Hungerford gave his amusing experience when coming North. He brought bees from Mount Pleasant on sleighs about 175 miles; it was hot over the bees; started with 12 colonies, and lost some by drowning over night, having left the sleighs standing in water, but the rest wintered fine.

J. A. Dart thinks there is no better place for safe wintering than Northern Michigan; he never lost any except once by starvation. He does not think it safe for amateurs to try Mr. Bingham's method of killing queens. He handles his bees in winter, any time he feels like it. He thinks noise or disturbance has no bad effect, and doesn't believe that bees hibernate.

Mr. Hilton thought that noises had no bad effect, and said that he wintered where railroad trains jarred the bee-building. He does not think the word hibernate, used by Mr. Bingham, is a proper term. He thought Mr. Bingham misleading, especially to young bee-keepers, but Mr. Bingham being absent he did not desire to take advantage, and preferred not to speak strongly on the subject introduced by the article. He thinks one of the causes of bad wintering is to have the bees too old; old bees are not so likely to live through the winter. He doesn't believe bees

ever hibernate. He can examine them any day and never find them hibernating.

Mrs. Mary Morrow has usually kept 75 colonies, reducing to 35 or 40 by doubling for winter. She always looks for brood—likes those especially; lost 7 colonies last winter, but usually has practically no losses. She uses chaff hives, and digs only sleet and where freezing after thaws. When she finds brood in a colony she unites one lacking it with this one.

Mr. Smith says sleet never smothers.

Mr. Kirkpatrick thinks sugar all right for winter stores, feeds quickly, and has combs ¾ capped over before wintering.

Mr. Hungerford says not to let sugar boil, but just warm, for feeding.

Mr. Hilton says scorching sugar kills bees.

Mr. Coveyou prefers, in feeding for winter, a large box full of holes, bottom on top of the frames; bees have to take the syrup or drown. It is the principle of the pepper-box feeder.

Mr. Hilton was asked if there is not danger of selling sugar as honey, from thus feeding. He said there is no danger, but only likely to prejudice neighbors who sell it. The sugar fed is consumed in winter and spring.

Mr. Dodo said that in the fall of 1900, he put bee-hives in three rows next to a high board fence, and the losses were, in 1st row, 3 per cent; 2d, 20 per cent; and 3rd, 50 per cent; the loss being greater towards the fence. He covered with chaff and straw.

Mr. Coveyou thinks the bees might have flown and stopped in the 1st row.

Mr. Kitson said a late laying queen may be unfertile. The general opinion of those present was that late laying is beneficial, there being no danger of bees being too young; the queen always stops her laying soon enough.

PUTTING UP HONEY FOR RETAILING.

Ira D. Bartlett asked as to the best method of putting up honey for retailing. He said he has trouble with tumblers not being sealed properly, and leak. He thinks the Mason jar, pint or quart, is the best can.

It was suggested by Mr. Hilton that the trouble is that inexpensive glass cans do not fit the covers, and that cans cost too much; that there is no successful and satisfactory can. The Mason jar is known to be of value. This is an unsolved problem. He says he is not satisfied, but finds it necessary to use glass. People tire of tin pails.

Mr. Kirkpatrick favors the Muth jar, or one similar.

L. C. Woodman says he sells honey at $1.00 a gallon, and likes that method best, retaining the packages.

Mr. Smith and Mrs. Morrow say if customers buy in large quantities they will always buy so; if started with small amounts, they always buy small quantities. Except to groceries, Mr. Smith sells 1-3-pint cups in cases of one dozen each.

The general opinion of this convention is that it is difficult to improve present standard glasses; but glass jars are not all the same size, and it seems impossible to remedy it so as to sell at a low cost.

THE SALE OF COMB HONEY.

Plain sections are taking place of those with insets.

Mrs. Morrow says her customers like square sections, and the tall sections are not so well filled, and the bees are apt to fill the top part with dark honey.

Mr. Kitson says in his locality he can get two-thirds more honey with plain sections than with bee-way sections.

Mr. Coveyou says plain sections sell best, either [illegible] or Danzenbaker. The thicker sections are uneven. He showed a 3d super of Ideal sections filled from a June swarm, all finely filled. He uses a unique arrangement of his own, that makes the removing of the sections from the super an easy matter.

The general opinion: Plain sections are always best, but there is little difference in the shape, that being a matter of convenience or preference.

W. Z. Hutchinson says merchants seem to prefer short-weight sections, buying by weight and selling by the piece; that in the West they sell by the case, guaranteeing a certain weight and quality. The dealers get light-weight sections, but this gives the dealers an advantage.

Mr. Hilton says the only honest way for bee-keepers is to sell by weight.

AMOUNT OF COMB FOUNDATION TO USE.

Mr. Kitson prefers full sheets of foundation for sections.

Mr. Hutchinson said if a slow honey-flow the bees can make combs, but if rapid they need foundation. He never used anything except 4¼ sections, but he used different widths, preferring 1½-inch in order to get them well-filled, but he gets better filled sections with full foundation, sheets, and better for market. Separators are needed to produce comb honey in the best shape for market.

Mr. Coveyou uses full sheets of foundation in the brood-frames and in sections; that one colony without foundation just draws out the brood-combs; another with full foundation sheets in frames and sections will fill both.

Messrs. Kirkpatrick, Bartlett, and others all use full sheets in sections, and even bottom starters, with a space of ⅛ to ¼ inch between the lower and upper foundation in sections; ¼ inch is safer.

H. E. Brown says it doesn't pay to use more than starters—bees will produce just as much honey.

Mr. Coveyou says he thinks it best to put a new swarm on starters to get more surplus honey, and to prevent making drone comb put in old drone-frames.

Mr. Hutchinson says he has had considerable experience in hiving swarms on starters to get honey. He hives on 5 Langstroth frames, and agrees with Mr. Coveyou, who uses a queen-excluder. Set the old hive by the side of the new one to get the old bees into the new hive. Bees must then go into the supers. Place in some unfinished sections, and in 20 minutes after swarming they commence to fill the sections, and if the queen keeps up with brood-comb it makes them in fine shape, and all honey goes in the supers. Mr. Hutchinson feeds sugar for winter stores, using one-fifth honey with sugar, and has no granulation. It is done in September. He feeds 15 pounds of hot syrup at one time, and has fed late successfully, but recommends feeding early.

WINTER FEEDING OF BEES.

Mr. Coveyou advises making dough of honey and sugar. He never had to feed at any time except to small and weak colonies.

Mr. Chapman hasn't fed since 1885 to any extent, and then feeds sealed honey in combs saved for that emergency. He doesn't believe feeding often is necessary. If he didn't know enough to feed in the fall he wouldn't feed now.

Mr. Hutchinson recommends making a candy of honey and sugar.

Mr. Hutchinson says he doesn't know as he would extract in order to feed, but if he could manipulate so that bees left the brood-frames empty and stored white honey in the supers, he would feed for winter. There is no danger of carrying sugar into the supers.

HOW SHALL WE DISPOSE OF OUR HONEY CROP?

Mr. Kitson says small producers sell at any price and demoralize the market.

S. D. Chapman says he sells his surplus over local consumption, direct to outside customers, not through commission men.

C. F. Pinnell says small bee-keepers hurt his prices, and he thinks some kind of trust should be formed. He sells to store-keepers in the vicinity.

Mr. Hutchinson spoke of one bee-keeper who paid more cash to his neighboring bee-keepers than the store-keeper would pay in trade, and this kept the price up in his locality.

Mr. Hilton advises selling direct.

(Concluded next week.)

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

Contributed Articles.

No. 1.—Desirability of Long-Tongued Bees.

BY PROF. A. J. COOK.

I have read with no small interest the late articles in the several bee-papers on the advantages of bees with long tongues, and the practicality of working in the breeding of bees to develop those with the ligula longer than the same in ordinary bees. I was specially interested in Prof. Gillette's article. The Colorado Agricultural College is to be congratulated in having so able, painstaking and thorough a scientist among her corps of instructors; and the apiarists of the country are to be felicitated, in that he gives a part of his valuable time and research to matters which so deeply interest them. His work in 1900, in connection with comb-foundation, no less than these researches to determine the real facts regarding the bee's tongue, are of great value.

I was the more interested as Prof. Gillette's results were so nearly a duplicate of my own, as determined and published years ago. Put Syrian in place of Cyprian, and we have a very close duplicature of my own conclusions. I proceeded a little differently from Prof. Gillette in making the measurements, though. I gave the length of the entire tongue, including the mentum, as I think this should be done. The bee stretches its tongue, undoubtedly, to the very utmost when probing the long flower-tubes for the coveted nectar. A longer mentum will permit a farther reach. Thus I think in all our microscopic work we should measure the entire length of the labium or tongue, from the base of the sub-mentum to the tip of the ligula. For obvious reasons, I would also include the sub-mentum. It is so connected with the braces at the base of this important organ, that it also serves to elongate the tongue proper though its measurement would not affect to materially change results.

As we know, the tongue, or ligula, rather, is a double tube. The inner smaller tube—which, by the way, is slitted on the under side nearly the whole length, though it is so rigid as to be practically a tube—is open at both ends of the ligula, and is the channel through which the nectar from deep flower-tubes must all pass. At the base of the ligula on the upper side is an opening through which the nectar passes to the mouth, and thence on through the œsophagus to the honey-stomach. The outer tube is closed at the outer end, but opens at the base of the ligula into the mentum, and so into the blood-chamber of the body. The bee extends its ligula by forcing the blood into this outer tube. We can copy this action by laying the ligula on a glass or board, and then pressing on the mentum, with a scalpel or our knife-blade. Immediately the ligula will shoot out just as it does when the bee extrudes it.

In my measurements, I took the bees off the frames by the wings, cut the heads off by use of scissors, carefully removed the tongues, laid them bottom up on the microscopic slide which had been previously covered with a little thin transparent glue, and then by pressing on the mentum the ligula was extended to its full length. I think no other way so good to insure correct results.

I also used a glossometer, or tongue-measurer, which I placed in the hive. This was exhibited at the Paris Exposition and received favorable mention and a medal. It consisted of a piece of glass one inch by three, and a similar piece of wire-gauze, each held by wooden side-pieces. At one end the gauze touched the glass, at the other it was one-half inch from it. The glass slid in grooves so it could be pulled out, and returned. Wood also closed the thicker end of this wedge-shaped implement. To use it we simply have to draw out the glass slide, coat it thinly on the inside with honey, replace it, and suspend all in the hive. As the distance from the gauze to the glass increases as we recede from the sharp edge of the wedge, the distance which marks the removal of the honey marks most accurately the maximum tongue-length of the bees of that hive. I found, as of course I must, that the glossometer and microscope told the same story.

The black bees had the shortest tongues, the Italian next, and the Syrian bees the longest of all. The microscope showed that there was very little variation in the length of the tongues of the bees of the same colony, and not much, though more, in bees of the same race.

I was not surprised to find that the Italians varied a little more than did either the blacks or Syrians. We have worked more in breeding our Italians. Selection has been made from our best colonies, in securing brood for our queens. Thus, as we should expect, these bees would vary more than blacks and Syrians, which have been left almost entirely to nature.

The fact of this variation undoubtedly explains in considerable part, the varying amounts of honey secured by different colonies. Mr. Hawley, of San Diego county, Calif., secured queens from a noted breeder in the East, and the product from these bees was surprisingly in advance of that from his other bees. Thus there is a practical side to this question, rich with promise, which I will reserve until my next.

Los Angeles Co., Calif.

Selling Comb Honey by the Piece vs. Pound.

BY J. A. GREEN.

In the recent discussion of the matter of selling comb honey by the case, the Editor has shown one side of the question, the Colorado bee-keepers another, while still others have endeavored to show that we can not all be bound by the same rules. It is an important subject, and we need all the light we can get on it.

Those bee-keepers who market honey by the case with as much variation in the net weight of the cases as has been reported in some instances, are certainly guilty of a carelessness that will react severely on the interests of bee-keepers in general. If a case of honey is figured as 21 pounds, and the average weight of a lot of cases is 21 pounds, it is quite true that there has been no dishonesty practiced as between the producer and the wholesale buyer, even if there is considerable variation in individual weights; but where this variation exists, unless the wholesale buyer re-grades the honey, or sells by weight, there is bound to be more or less injustice and dissatisfaction before it reaches the consumer.

This results in inevitable injury to honey-producing interests. Bee-keepers as a class are too apt to lose sight of the fact that the sale of the crop is quite as important as its production. They are too apt to think that once they have got their honey off their hands their interest in the matter ends. Compare their attitude with the scrupulous care taken by the producers of most other articles, that their product gets into the hands of the consumer so that it is satisfactory and pleasing to him.

If the consumer is not pleased with the honey he buys, he can, and frequently does, do without any more honey. If the retailer gets honey that he can not handle conveniently, satisfactorily and profitably, he may drop the sale of honey altogether in the future. I have frequently found such men who have become disgusted with a poor lot or two of honey they have become "stuck" on, and have quit the sale of honey entirely on that account. Honey is not the necessity or the staple article that we would like to see it, so he loses little or no trade thereby in other lines, as his customers, if they do not see honey, will not usually ask for it or go elsewhere to hunt it up.

It is a short-sighted policy that does not consider the fact that the interests of the retailer and consumer must be taken into account, and that to practice any injustice on either of them must inevitably injure our trade. This is true of all branches of trade, but particularly so in ours, where the consumer may readily dispense with our product if he wishes.

There are great and undeniable advantages in buying and selling honey by the case, or by the section, which amounts to the same thing. Grocers almost invariably sell honey by the section if its condition will at all admit of it, and after they have once experienced the advantages of the plan, they generally prefer to buy as well as sell by the piece.

To enable them to do this advantageously, there must be a certain uniformity, not only between sections in each case, but between different cases.

It is quite possible to have this uniformity. For years I have been selling my honey in our local markets by the section instead of by the pound. It has been most satisfactory to me, and that it has been so to the grocers is evidenced

by the fact that the exception of two or three whose business habits lead them to demand cheap honey, regardless of its condition, there is no longer any objection to this way of selling, but they prefer it as a more practical, business-like and time-saving method. Not only has this been the case in the local markets and surrounding towns, but I have had very little trouble to sell this way in new markets. Recently I took a quantity of honey to a city some distance away, where they were accustomed to buy their honey by the pound. In selling to eighteen grocers I heard no objection to my plan of selling, but some commended it, saying they had been making a mistake in selling by weight.

It is true that to make this method satisfactory requires very careful grading, together with such management as will secure practical uniformity in weight and appearance. To show how readily this is possible, I may say that for a number of years I have put up a large share of my honey in cases that were exact and uniform in weight as well as in appearance.

This year I put up 50 cases for this trade; 40 of them weighed exactly 22 pounds net each, and the remainder 20 pounds net. For another purpose I put up a number of 12-section cases, each of which weighed exactly 9 pounds net. Notice I say these were exact weights, as exact as your grocer uses when he weighs out sugar or coffee. Also, in all of them the sections in each case were practically uniform in appearance, with no extra light or heavy sections. Case after case of this was filled with honey just as it came from my storage-crates that without any selection tipped the beam at the exact weight. Most cases of course, required a little selection to make the weight come out right, but a moment's work was all that was required to even them up.

Several factors helped to produce this uniformity. This article is not on the production of honey, so I cannot discuss these now, except that I will say that in my opinion the principal of them is the use of a narrower section than is common. I use 7-to-the-foot, which, by making a comb more nearly the thickness which the bees build naturally, tends to much greater uniformity.

But even though your 1⅞ sections will not run as uniform in weight, it is an easy matter to make each case of a standard weight. Set your empty case on a double-beam scale and balance it on one beam. Put the weight at the required point on the other beam, and, with the case still on the platform, put in the honey. As you set it in, set aside all extra-light and extra-heavy sections. Of the remainder, put the lightest at one end of the case and the heaviest at the other. If the weight does not come out right, it is an easy matter by a little selection to vary it either way. When you can guarantee weights—not average weights or estimated weights, but exact weights—you will have your business on a sound commercial basis, and not until then. It will take a little time and trouble, it is true, but you will be more than paid for these.

But, you say, what shall we do with the light and heavy sections that were set aside? You can case them separately, making cases of lighter or heavier weight than the standard, or you can combine them, making cases of standard weight, even though the sections are not uniform.

It is better to have nine-tenths of your cases uniform and one-tenth very uneven, than to have all more or less uneven. Those which are over or under weight, or in which the sections are not uniform in weight, should be sold, if possible, to those who prefer to buy by weight. Incidentally, let me say that the surest way to cure a grocer of the desire to buy honey by weight instead of by the section is always to sell him your heaviest sections.

No doubt some will say that it does not pay to be so particular. It has paid me well. It has enabled me to compete successfully with the careless and ignorant bee-keepers who sell their honey for whatever they can get. Competition has been particularly strong during the past season, as I have had to compete not only with the farmers and others who keep only a few bees, who are very numerous in this locality, but with some making a business of bee-keeping, who ought to know better, but who have been selling honey all the season for from two to three cents a pound less than I have been getting. In spite of this unfair competition, I have supplied the majority of the grocers of the neighborhood and have been able to maintain my price, which is always based on the top price in the Chicago market, and which I never change throughout the season if possible to avoid it. I fix my price in the fall, after a careful consideration of the market, and only once in fifteen years has it been necessary to change this price during the selling season.

My light-weight, but carefully graded, section, averaging a little less than thirteen ounces, has brought as much money as the average bee-keeper has received for sixteen ounces.

Adopt methods that will give you sections of uniform weight and appearance, grade your honey carefully and honestly, sell it by the piece, and you will have some strong and effective weapons in your commercial struggle against the careless and incompetent. La Salle Co., Ill.

No. 6.—Apiculture as a Business.

Producing Not All; Marketing a Large Problem—Difference Between Selling at Home and the Foreign Trade—Effect of Competition.

BY R. C. AIKIN.

To produce is one thing, and to market is another. To produce well, and fail in marketing, means unprofitable business; and to produce poorly and market well is but little better. Both problems must be well considered in undertaking the business. Marketing at home—that is, where one has a home demand for *all* his product—is not so complicated or hard a problem as the outside marketing; the home selling does not require the goods to pass through so many hands or agencies. For these reasons it is evident that there must be more co-operation in the outside work. Should some other producer come into my field where there is now a local production equal to from two to four times the local consumption, he should leave out of his calculations the home trade, counting only the foreign.

There is a great and wide field in which to sell honey, in which to develop trade. When we consider the great hosts of our population who do not use honey, the thousands of communities who scarcely know what honey tastes like, there need be no question about there being an undeveloped foreign trade. By "foreign" I mean any field away from the producing point.

These foreign markets must be reached almost exclusively by the co-operation of apiarist with apiarist, and apiarists with transportation companies and middlemen—there is no other feasible way of reaching distant points. Near-by markets can be reached with only the transportation companies between, or possibly by wagon, and there is room in that field, but the biggest field is the one to be reached by the general co-operation of all concerned. This co-operation question I hope to consider later on; at least it should be considered, it is of very grave moment to all classes of producers, and more so to honey-producers than to some other branches.

Having decided to go into honey-production, or, being already in, we want to know how we are to get the best results in honey, both quality and quantity. In each locality one must adapt himself and management to conditions. Whether you have light, amber, dark, or all shades of honey; this or that flavor; slow, medium, rapid, intermittent, or all kinds of flows; all these things are factors that will influence results, and must be understood and observed in management if a good product is obtained. Just so sure as we neglect these things we will drop behind. It is a fact that the price of nearly every product is set largely by the cost of producing *by the best and up-to-date methods;* and he who is behind in his management is usually also behind in his accounts.

To my way of thinking, there is something radically wrong in the present competitive methods; they drive out of business the common or mediocre in knowledge, vigor, capital, and natural or acquired advantages. All cannot be at or near markets, post-office, depot, and other facilities; cannot have the same capital, the same machinery, the same materials. It is out of the province of this journal to discuss the cure for general social evils but they exist and must be faced, hence I touch upon them to prepare the reader better for success in the line of business he has chosen. The short cuts, kinks, better appliances and what-not pertaining to the science and detail, are things to know in any case. So much for the imperative need of much practical knowledge and understanding.

If one has a home demand that takes his product right from his honey-house, almost any kind of product can be sold—crooked and bulged sections, broken comb, extracted in bulk, and drawn right from a tank. If the trade passes

out to the village and small-town grocers, broken comb gets to be out of the question, and uneven and crooked sections also do not meet with favor. I find many customers coming to my honey-house for 15, 25 and 50 or more cents' worth of comb honey, and the customer cares not whether one section weighs a pound and a half and its neighbor only a half or three-fourths of a pound—just so long as I can give them the money's worth in *good* and fairly nice honey *to eat*.

In my practice I use separators, planning to have my section honey straight, smooth and even, such as can be retailed by the piece at 10, 12½, 15 or 20 cents *each*. In a large crop, however, there is now and then a cull section caused by a defective foundation or starter, or one with a brace against the separator that causes a break in the capping—some that meet with accidents in one way or another, and some that I buy from the farmers and from careless apiarists. I sell my nice, smooth honey to go to city and fancy markets, but retail the off-grades from the honey-house, weighing out *by the pound*.

Selling by weight from the average grocery is not practical in these days. There is a growing custom to sell almost every thing put up in *regular* packages, each package alike and the same weight. We find coffee, tea, baking-powders, flavors, meats, flour of every kind, in fact, almost every thing, sold in regular packages packed by the producer or manufacturer. I have heard that there are some places where butter is cut off in big chunks and weighed out, but in this part of the country and all up-to-date places, selling by the piece or package is very largely practiced, and the bee-man must come up to demand or custom else he is out-of-date, and cannot satisfactorily sell his product. Even potatoes in this country sell often "by the sack."

Honey must surely come to be sold as other things are be put up in packages of even weight, and sold by the package at retail. It follows, then, that whether we prefer it or not, we must use separators in our supers, or some other device or method used that will obtain uniformity in weight of sections. I almost see some one or more writers hustling into print with arguments to prove my position wrong, saying it is possible to produce a fancy, even-weight section without separators. It *is possible*, but not PROBABLE. Possible when you have full sheets of foundation, thin sections (say 1½ inches), strong colonies, warm weather, rapid flows and skilled apiarists who know how to get the greatest number of these factors working harmoniously together. I say it is *possible*, but not probable—not probable with even the fair-to-good practical apiarist, and not always possible with the expert. Whenever the apiarist can make or supply all the deficiencies or defects caused by natural causes, then, and only then, can he produce a fair average finished product year by year.

A practical farmer knows that first and foremost he must have a good soil, and that it must be put in order, moist, mellow, and in fine condition to receive the seed. No matter how good naturally the soil may be, it must be prepared. After the soil is ready to receive the seed, then comes the choice of *good seed* to put into the soil. It is a familiar thing to most farmers to have observed or experienced the loss of a crop from a fine, well-prepared field, only because the seed was defective. So may the apiarist have the finest stock obtainable, but a miserable failure of hives and supers. Farmer bee-keepers and careless and impractical apiarists will buy the best hives on the market, then proceed to use them like a farmer putting poor seed into good ground, or good seed into hard, untilled ground. A good hive wrongly handled makes the possessor worse off than a poor hive well handled.

The value of a hive is in proportion as it enables the apiarist to apply methods, to produce results in short cuts, saving labor, obtaining control of bees, and thereby turning their habits and instincts to further our ends, and facilitating the best finished product. Do not be deceived into thinking that a "patent hive" of itself will get you more and better honey. It is *method*—an intelligent management and application of principles—that gets results. The hive is but the medium by which we bring about results—it is the vehicle. I do not believe we have yet the perfect hive, the one that best enables us to practice to the best advantage the knowledge we have attained to in scientific apiculture. I will confess (parenthetically) that I am striving to perfect a hive that will best enable me to apply my present knowledge of the scientific principles of apiculture, but, if I have not that scientific knowledge, or having it will not *apply* it, my fine, improved hive is worse than useless. Bees, of themselves, and following instinct and nature, will be just as healthy, gather just as much honey, and be better off (they and their owner), dwelling in plain box-hives without a frame in them. Remember that the *hive* is but the *vehicle* by which the apiarist is able to apply HIS KNOWLEDGE.

Larimer Co., Colo.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

BEES AND SOUND FRUIT.

The Canadian experiments to prove that bees do not injure sound fruit seem pretty satisfactory. By starting very hungry bees to work on sound fruit dipped in honey, and also on similar fruit with little holes punched in it, right alongside, the conditions seem to be made sufficiently alluring and natural. And when they wreck the perforated fruit, and polish off the dipped fruit without making any holes in it, it's pretty plain that they at least don't know how to do anything more. It matters comparatively little to the fruit-man whether they don't know how or are physically incapable. Still, this does not entirely obliterate previous testimony that they do sometimes *learn the trick* of forming a hot, seething, miniature swarm on a bunch of grapes until they either burst the berries or pry them loose at the stem. I have grapes of many varieties, and only once in twenty-odd years do I remember to have seen something that looked a *little* like this. By rubbing long enough in one place a single bee could wear a hole and there is *some* testimony on record to the effect that they sometimes learn the trick of doing this. Page 73.

ELECTING OFFICERS OF THE NATIONAL.

Say, combine the two methods of electing officers. *Begin* the ballot at the annual meeting, where the desirability or non-desirability of changes can be talked over. Report the vote as far as it has gone. Then (after it is seen just how the cat is jumping) allow a sufficient time for the votes of absent members to be sent in. Or, would that lead to spite-work, to defeat just the ones that ought to be elected? I premise that the Scylla and the Charybdis of the thing are, that one method elects by a disgracefully lean minority, and the other method gives the voters no chance to concentrate on anybody else than the man already in the office. Page 83.

THE WHIMSICAL HONEY-EATER.

Yes, the man who cultivates a whim that he can't eat genuine honey, but can eat imitation honey all right—he's a tough proposition. What Edison, what Whitney, will invent a method that can reach and evangelize him? Page 88.

SUGAR-MAPLE AFTER FRUIT-BLOOM—RATTLE-HEAD BEES.

Why is this thus? North Carolina reports sugar-maple blooming after fruit-bloom. Here it is the other way. Page 92.

Rattle-heads indeed were those bees that took up their quarters in a five-gallon oil-can. Page 93.

CARBON BISULPHID.

Carbon bisulphid is a live topic on account of the present probability that it will displace sulphur in the important work of killing off our vermin and things. We greatly need the best, whatever it is. Very heavy, both as a fluid and as a vapor. Four cups of it weigh as much as five of water; but it only takes two—say bushels—of the vapor to balance five of air. One result is that with care it can be poured from one bushel to another. This is a practical matter, for we need to remember the difficulty of getting it equally distributed in the top of a closet or the top of a stack of hives. Water don't run up hill. Fortunately, heavy vapor, although it doesn't love to run up hill, will eventually mix with the air and then go up to some extent. Page 99.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

(The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.)

Honey from Box-Hives.

On page 10 instruction is given to melt combs of honey taken from box-hives, with the hint that the melting will not improve the quality of the honey. A much better way is to get out the major part of the honey before there is any melting. Sort over the combs, and crush them, then give the honey time to drain out in a warm place.

I would not have made this correction if it had not been for the "after-thinking" my good brother Hasty gave it, page 122. It is a comfort for me to know that such sharp eyes are upon my work, and that an occasional slip will thus do less mischief. Never mind the "know-it-all style," Bro. Hasty; give us the truth. C. C. MILLER.

Questions Answered Before.

What is the new style section D. H. Metcalf calls attention to on page 61?

Please describe "Golden's combination comb-honey hive," with plan or system, as mentioned on page 57.

CALIFORNIA.

ANSWER.—You will find these questions answered a week or two ago as fully as I could answer them.

Moving Bees 60 Rods.

I have about 100 colonies of bees, and I want to move them 60 rods. They are within the corporation, and the people are getting stung and bothered around the wells and watering-places. I have plenty of water for them, but they go elsewhere. I would like to know when would be the best time to move them. They are packed with chaff, with a shed over them. Do you think they will come back home again?

ILLINOIS.

Moving the bees 60 rods may and may not make a difference about their troubling wells and watering-places. If a good watering-place is afforded them near by, they may not care to go a great distance, otherwise they will not mind a distance of 60 rods. There will be less trouble about their going back to the old place if moved right away than if moved after they have begun to fly freely. But the unpacking and disturbance will not benefit the bees. Better wait till the weather gets a little warmer, say the middle of April; then when you are expecting a warm day, shut them up the evening before, move them in the forenoon without trying to handle them carefully, pound on the hives till they roar, then open the hives and set boards in front of the entrances.

Driving Staples in T Supers.

I am in trouble. Can you help me out?

How can I drive in staples like the enclosed without bending them all crooked? I've got to use such staples for T-tin rests, and I can't succeed in driving in a single one properly.

As they are to be used with supers having a bee-space at the top, they must be bent at right angles after being driven in. How can I bend them without losing them in the wood?

I thought that you could help me because you used the T-supers yourself. If you do not use bent staples for T-tin rests, will you please tell me what you use?

Please, please do not answer through the American Bee Journal. I can't wait so long. No doubt the answers appear by turns there, and I'd have to wait weeks. WISCONSIN.

Use a big, heavy hammer—no toy affair—so that you will not drive alternately one side then the other, and if the face of your hammer is not broad enough you might use the side of the hammer. Drive the staple in to the proper depth, then by one or more blows of the hammer bend it over while you hold firmly against the staple the back edge of a saw or something of that kind; then draw out the saw and finish driving in the staple.

If I should do as you say, and not make answer in the American Bee Journal, that would practically bar me out from making any answer at all, and you wouldn't want that, would you? For you see, the same reason that would make it desirable for you to have your answer by mail would make others want theirs by mail, and it would hardly do for me to make fish of one and fowl of another. And if I should answer all by mail I'm afraid you'd have to wait longer than you do now, for such letters would have to take second place, and with so many I'm afraid I would get several weeks behind, whereas at present the Editor pays me for answering them and they take first place. All such letters are answered as promptly as possible, and I try to manage so there shall be no delay in getting them to Chicago, and I suppose effort is made to get them in print in the first number possible after they are received. So there is not the long delay you suppose. In some cases, however, it may happen that if the question is sent direct to me the answer will get into print a week sooner than if it is sent to Chicago.

Requeening—Dividing Colonies—Rearing Queens—Galvanized Iron and Honey.

1. I have the crossest bees that ever were—there is no end to the fight there is in them. Last summer they kept sentries at the doors and windows all the time, and woe be to the stranger or neighbor who might visit. I tried to be as gentle with smoke and handling as possible, but sting they would. Now I know the Doctor will say, "Kill the queen." Is that so, Doctor?

2. Well, then, I am after you for the shortest way to fill up her place again.

3. One more question: How and when to divide for increase, and how to give queenless part a queen or queen-cell. I think it is best for me to divide for increase; it gives less trouble in watching swarms to double the colonies, as less is all I want; I am after the honey.

4. Do you think it the best way to put an extra hive on top of a strong colony with excluder between, near the time of honey-flow, or would you put extra below?

5. Is it best to rear queens in a full colony? Would a strong half-colony not do as well?

6. How many sheets of foundation or starters would you give a swarm at first?

7. How would this plan do for securing a few fertile queens, and to have them on hand when needed? I divide a 10-frame empty into 4 sections, by division-boards, each apartment to have an entrance of its own, then place in each section a frame with bees, brood and queen-cell, and another with honey; then let the queen get fertilized before using.

8. Will galvanized-iron tanks injure the quality of honey if standing in them for a time? NORTH DAKOTA.

ANSWERS.—1. No, I'm not so sure I would say to kill the queens. I'm a little afraid I can't trust you to do them justice. Sometimes it seems that all the bees in the apiary are cross when it's only the bees of one colony, and it would hardly do to start with a gun after queens till very sure just which are the guilty ones, or which is the guilty one. Watch closely the behavior of different colonies, and you may find there is just one colony which has bees that follow you all over the apiary. So long as you are nowhere near their hive they may not molest you, but if you go at all near the front of their hive they promptly make an attack and keep it up until you leave the apiary entirely. Neither will it always do to issue a verdict of guilty upon one single count. There may be some special reason why a colony is very cross today without it being irretrievably bad. But if it has established a permanent reputation for viciousness then off with the head of the queen.

2. Rear queens in nuclei, and use them as needed.

3. As a leading object with you is to prevent swarming, do your dividing a little before there is danger of swarming, but not necessarily before any preparations for swarming are made. How best to divide is a very hard question. What is best for one may not be best for another. You will do well to try different ways and then decide what is best for you. One way is to take from a colony all its brood but one frame, and to take that away two or three days later. Take the bees with half the combs, and brush them off the other half, of course being sure that the queen is left in the old hive. Start a new colony with these combs, and give them a laying queen after a day or two. The queen may be given in the usual manner in an introducing-cage, or if she is given from a

nucleus she may be given without caging; merely take a frame of brood from the nucleus, queen, bees and all, and put in a hive. Another good way is the nucleus plan. Commencing with the colonies most in danger of swarming, take from them brood enough to discourage them, and distribute it among the nuclei you are building up. Better have the queen laying in the nucleus before beginning to build up much.

4. I'm not sure that I know exactly what you are after. In any case, I would have the queen below, and if the extra story were filled with extracting-frames I would put it above, although I have known bees to make good work storing in extracting-frames below. If the extra story is to help prevent swarming, then put *all* frames of brood in the upper story, leaving the queen with empty combs or foundation below. That will work well for extracted honey, and will be better to prevent swarming than the plan you tried of putting up the brood piecemeal.

5. Yes and no. Up to the time the cells are sealed no colony is any too strong, in my opinion, to care for them. There are some, I know, who think a weaker colony will do as well, but my view would do no harm, even if they are right. When a cell is about ready to have the queen emerge, it may as well be given to a nucleus, for it will be wasting something like two weeks' time of a strong colony to take care of it.

6. I don't know. The easiest way is to fill the hive at the start, and for extracted honey it may be as well. For results in comb honey it may work better to give only half the number at the start, and give the rest in ten days or two weeks.

7. First-rate. Reared many a queen that way. Of course, have entrances on all four sides.

8. Testimony varies. Reports from abroad say harm has been done by it. In this country it is generally believed to be all right. Possibly it would be best not to have a large surface of the metal in proportion to the amount of honey.

Feeding Bees in the Cellar, Etc.

1. My bees are sometimes a little restless, buzzing and coming to the hive-entrances (I winter them in the cellar). As I have not had any experience with bees I don't know whether they are short on stores. In that case, what is the best thing to do?

2. Is it harmful to open and examine the hive at this time of the year (Feb. 17)? I have been thinking about doing it, but if I should open the hive and disturb the bees, I believe I would get them all around the cellar.

3. One hive seems to be slightly damp, which I suppose it should not be. What can be done about that?

MINNESOTA.

ANSWERS.—1. The best thing to do depends upon circumstances. If you are fortunate enough to have a deep space under the bottom-bars, sections of honey, or a comb of honey, can be shoved under, taking care to see that it touches the bottom-bars, or at least that the bees get started on it. It may be necessary to stir the bees up a little to make sure of this. It may be that the top of the hive is the only part you can get at, in which case you may put in honey in frames or lay a cake of candy on top, covering up well.

2. Of course, it is not the most desirable thing to disturb the bees at all, but if carefully and gently done, the hives may be opened and frames even taken out without disturbing them very much. There is not much danger of getting them all over the cellar.

3. It is possible that the hives need a little more ventilation. If there is no ventilation above, and if the entrance is too small, the moisture from the bees will condense on the walls of the hive. It matters little how the air gets to the bees so there is plenty of it. It may be sealed air-tight above if it is all open below; and it may be sealed air-tight below if there is no covering on top; or it may have the usual summer entrance and a little chance for air to escape at the top, such a chance as would be given by laying a nail under one corner of the cover.

Swarming Management—Clipped Queens.

1. My bees usually swarm during April and May. What is the best plan to get the most honey? Is it best to let them swarm and give the prime swarm the most of the brood-frames with the brood, and give the new swarm empty supers? or is some other plan better? If you advise giving the new swarms combs from the mother colony, how many would be best? I find it to be the best plan with me to push the new swarms at the expense of the mother colony, to get the most honey. But if you will give me a better plan, I will certainly be glad.

2. If a queen is not hurt while being clipped, does the clipping ever injure her in any way afterwards? A thing I do not like is a prime swarm to leave me and go to the woods.

SOUTH CAROLINA.

ANSWERS.—1. You're right, "to push the swarms at the expense of the mother colony to get the most honey." But instead of giving the brood to the swarm and leaving the partly-filled sections with the old colony, do just the other way. Give the swarm frames filled with foundation or with starters, and after a day or two, when the queen has begun laying in the brood-chamber, take the supers from the old colony and give to the swarm. In order to make the swarm stronger, do this: When the prime swarm issues, hive it on the old stand, and set the old hive close beside it. A week later move the old hive to a new stand. That will throw all the field force into the swarm, making the mother colony so weak that it will not send out a second swarm. All this is on the supposition that your earlier flow is the more important one. If you have a heavy flow continuing late in the season, and there is no danger of overstocking your field, then it may be better not to concentrate all your effort upon the swarm.

2. Of the great number of clipped queens I have had, I never could see that one was worse for the clipping afterward.

American and European Linden—Wintering Bees—End of Honey-Flow.

Well, here I am again asking questions, but if you get weary of me, why just turn me down.

1. What is the difference between the American and German linden? or, in other words, which of them is what bee-keepers call "basswood?"

2. Which is the better, a dead-air space about the bees, or to have that air-space filled with mineral wool or some other packing-material?

3. Is it a good plan to raise the hives say about four inches from the bottom-board for wintering bees on the summer stands—I mean to have a frame made four inches high and the same dimensions as the bottom-board, so they may be removed in the spring?

4. Have you any way to tell when the honey-flow is over in summer?

PENN.

ANSWERS.—1. I don't know enough to tell just what the difference between the American and European linden is; but it is not very great. The American is called basswood.

2. It is considered better with the packing.

3. It is a very excellent plan. I get something like the same result by having a bottom-board 2 inches deep, filling up the extra space in summer.

4. Yes; when the bees have been doing good work at storing, and some day when you go into the apiary and feel inclined to say, "What under the sun makes the bees so cross to-day?" the probability is that the flow is letting up. So long as the flow lasts you will have little or no trouble with robber-bees; but when the flow stops you will find them inclined to pounce upon a frame of brood or honey if left exposed.

Don't you worry about being turned down for asking questions, so long as you do not easily find answers to them in your text-book. Come on with your questions; I've a whole lot of answers left, quite a large percent of them being, "I don't know."

Why Did the Bees Die?

I have lost 27 colonies during the winter. They had plenty of stores but it was very nearly as thick as taffy. Is this the reason they died? If not, what do you think killed them? They had good winter quarters.

ILLINOIS.

ANSWER.—I don't know. It is possible that along with the thickness of the honey there may have been something wrong about the quality. You do not say anything about the condition of the bees except their death. If they suffered with diarrhea, the quality of the honey was probably at fault. It is just possible that they died for want of moisture, in which case I should expect to find them in much the same condition as if they had starved; but I'm not entirely sure about this.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

GENERAL ITEMS

Winter Is Over Here.

My 28 colonies have come through in fine shape. They are gathering pollen every day. Winter is over in this locality.

H. D. MURRY.

Rankin Co., Miss., Feb. 27.

Wants More Particulars.

We are often induced to read a seemingly interesting article and at the conclusion exclaim, "O pshaw!" Just so with the buckwheat item on page 108. We have no way of judging the value of the plant by that item, as we do not know whether he had one colony or a thousand working on the buckwheat.

Bee-keepers, please give us complete reports, not half-finished, unintelligible ones. Our time is too valuable to be thus wasted.

JOHN M. DAVIS.

Maury Co., Tenn., Feb. 25.

Wintering in Chaff Hives.

Bees did fairly well last season. I started with 25 colonies last spring, and increased to 45, from which I harvested 125 cases of 24 sections each of comb honey, and 1,000 pounds of extracted.

I have 40 colonies in winter quarters, which are all right at the present time. I wintered them on the summer stands, in chaff hives of my own construction, made of lap-siding 26x20x24 inches for the 8-frame dovetailed hive, giving room for 3 inches of chaff all around, and about 13 inches over the brood-nest. The cover is made like a roof of shingles. I find that the more chaff there is over the brood-nest the better it is, because it takes up more moisture during severe, cold weather.

C. J. OLDENBURG.

Scott Co., Minn., March 3.

A Florida Report.

If my health were good I would consider myself in good pasturage; but I am afflicted with sciatic rheumatism and a good part of the time I am not able to be with my bees. I have produced some large crops of honey here on the river. Three years ago my bees gave me 22 gallons of honey to the colony. Last year was a bad one, and they stopped at 14 gallons. I keep from 60 to 70 colonies.

We winter bees on the summer stands, of course. I have 76 colonies now, nearly all apparently in good shape. One of my neighbors had a good swarm yesterday. I study bees, read bees, work with bees, and with the help of the "Old Reliable." When asked if I am a bee-keeper my answer is, "I bee."

H. F. BAKER.

Liberty Co., Fla., Feb. 27.

A North Dakota Report for 1901.

Last season I was very successful with 8 colonies, spring count, and got over 600 pounds of honey, 70 was in sections and balance extracted; besides, I increased to 20 colonies, which were put into winter quarters the first week in November in fairly good condition.

I took a Michigan man's plan that I saw in the Bee Journal, to run more for honey than increase of bees, but I got fooled some. The plan was, when the colonies became strong in brood, to put an extra hive on top with excluder between, and keep lifting up frames of brood from below to the upper part. This was to give no swarming and lots of honey, but instead there was galore of swarming, and I fairly lost track of how they were, and where they were.

I was fortunate in having a visit at the time

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Alfalfa Honey--7 cents a pound in lots of 4 cans or more.

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Extracted Honey For Sale

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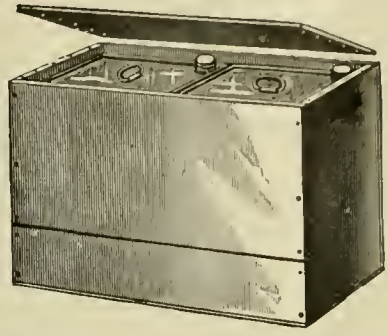
This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



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Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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is so valuable in the house. It is ready when the first sign of cold or chill is felt. A few drops then does what a doctor would charge many dollars to do later. We receive numberless letters like the following:

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The Best Remedy made for

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of an old bee-keeper who examined all the colonies, and found out their whereabouts, and how they were for queens, brood, etc. One trouble was, the queens would hatch out in the upper part, and there was no "go out" for them.

There was one very good plan he told me of, and that was to keep a record of how each colony was, on a piece of board, day and date; so after that every hive was looked over so many days after date, and all went splendidly for honey and increase.

The basswood yielded finely, and I cannot speak too much in favor of the sweet clover. One thing I would notice about a patch of yellow sweet clover—that I raised from the seed of one plant 3 years ago—it bloomed 3 or 4 weeks before the white kind, and just at the right time, and the bees seemed fairly to go for it. Then they took to the white bloom and worked on it until the frost came in September. It grew from 7 to 8 feet tall. Our cattle will eat it whenever they get a chance.

I have had a very good time this winter looking over the copies of the American Bee Journal, and am sure to be benefitted by its useful hints.

Thanks to Dr. Miller for his clear, honest talk and answers to questions; likewise Dadant, Doolittle, and others. R. MCCRADIE.

North Dakota, Jan. 29.

Few Dead Bees in Wintering.

Bees have wintered well so far. I never saw so few bees die during the winter in the colonies left on the winter stands. Up to within the past three weeks there were scarcely more than a dozen dead bees to the hive. It warmed up yesterday, and those on the summer stands lost a few bees by their dropping into the snow-water; in fact, there were more lost from this cause within a few hours than died all winter. H. G. QUIRIN.

Erie Co., Ohio, Feb. 24.

Fine Weather—Selling Candied Honey.

The weather is very fine in this part of the country, and if it stays mild we will be able to report fine wintering of bees.

I have sold all my last year's crop of extracted honey—about 24,000 pounds—over 20,000 pounds being put into lard-pails. This was sold candied. You see, the people don't want it that way. As soon as they get it they will melt it and eat it. But some prefer it candied. R. C. AIKIN.

Larimer Co., Colo., Feb. 25.

No Honey Last Season.

There was no honey here last season. I probably will have to feed my bees when spring comes. But a bee-keeper is always hopeful. FRED BIESEMEIER.

Johnson Co., Nebr., Feb. 19.

Heavy Loss in Wintering.

As I have seen no letters from this part of Illinois, I thought I would give the condition of things. We have had a cold winter here. Bees went into winter quarters in fine condition, colonies strong, with plenty of supplies, such as it was, to last them, but, alas, it was honey-dew, and the result is that nine-tenths of them are dead, and those that are living are in bad condition.

We had no clover last summer, consequently they gathered honey-dew in September and October. It looks as if we will have to go out of business, or stock up from some other locality. C. ZOLL.

Fulton Co., Ill., Feb. 28.

A Severe Winter.

We are having one of the most severe winters here in years. Snow came very early, there being good sleighing for Thanksgiving, and staying right along, with the exception of a sudden but short thaw in December, which washed terribly, tearing out bridges and doing immense damage.

We are now undergoing our third blizzard

this month, and the snow-banks were ten feet deep before this began, there being many instances where the sleigh tracks were higher than the fence on either side of the roadway and other places where the banks have been shoveled through, where it was impossible for a person standing in the field adjacent to the highway to see any portion of either team or driver as they passed through these deep, shoveled places.

Winter came so early, so we are looking for an early spring, but we have fears for the safety of our bees, on account of their long confinement and the severity of the winter.

CLARENCE WILKINS.

Cortland Co., N. Y., Feb. 19.

May Have a Fair Season.

The unexpected good rains have come, and it is raining now. It is late but we may have a fair season after all. M. H. MENDLESON.

Ventura Co., Calif., Feb. 25.

Thinks Bees Will Winter.

My bees have not had a chance to fly since last December, but I think they will come through all right as they had plenty of good honey to winter on. J. I. CLARK.

Addison Co., Vt., Feb. 25.

Honey Sold Well.

We had between 600 and 700 pounds of first-class honey last season, which I sold mostly in the home market at 25 cents per pound for both comb and extracted, and could have sold double that if I had had it.

L. E. AMMIDOWN.

Worcester Co., Mass., Feb. 24.

A Good Suggestion.

Talk is of no value without action. If everybody waits for the crowd there will not be any crowd. Mr. Ferguson (page 140) starts out with a dollar for 1902. Here is my dollar for 1903, toward the type-setting machine.

Now, come on boys; make a crowd; pay up all arrearages, and a year in advance if possible; and here we are. A. F. FOOTE.

Mitchell Co., Iowa., March 3.

[Wouldn't it be a fine thing if every subscriber who is in arrears on his Bee Journal subscription would pay everything to the end of 1902? Why not?—EDITOR.]

Gill's Weather-Proof Hive-Cover.

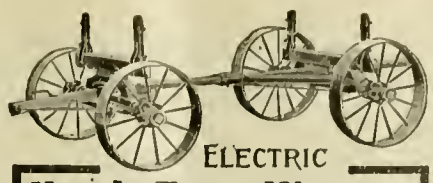
Easterners can not easily understand the effects of a Colorado sun in warping, twisting, and checking hive-covers. One man says a Colorado sun "will pull out nails and hide them." That may be exaggerated. M. A. Gill has devised a cover that he thinks will defy the worst that a Colorado sun can do. He says in the Bee-Keepers' Review:

I use the standard, 8-frame hive, and in getting out the material for the cover, I first get out a rim, the sides of which are 1x2⅜x22 inches long. Along one side of the side-pieces I cut a rabbet ¾x¾ inches. Across the ends of the strips I dado in ¾x⅞ of an inch, to allow the end-pieces of the rim, which are 1x2⅜x14 inches long, to set in, and I nail both ways, as you will notice by referring to the cut of the cover.

On top of the rim I nail two boards that are simply ship-lapped together (very common lumber can be used). In nailing the cover together I use thirty 7-penny, cement-dipped, flat-head nails. I then give the cover a heavy coat of paint, using outside white made from oxide of zinc and lead, and then right on to this green paint I lay a piece of thin, unbleached muslin, cut two inches larger all around than the top of the cover. Standing at the end of the cover, I cut a two-inch gash into the cloth, two inches from the corner. This allows the side strips to lap around under the ends. I now give the whole cover another heavy coat of the same paint right on top of the cloth, and make the laps at the corners in green paint, both underneath, in the middle, and outside; and I would advise to give it another coat of paint after it is dry. Such a cover will not warp, twist nor check, and it can be exposed to all of the elements of this or any climate; and, in my opinion, if given a coat of paint, such as I have named, once in three to five years, its owner will have a good water-proof cover as long as he cares to keep bees.

When this cover is placed on the hive, it rests upon the *sides only*; the ends shutting down over. There is about ¼-inch play all around, and it is at the ends where is secured the circulation through the air-chamber, which I consider one of its most important features.

As an inside covering I use two or three thicknesses of burlap, both summer and winter; and when I crowd the cover on, the burlap, being cut ½ inch larger than the hive, is drawn taut so that the bees have a space above the frames; and the cover is held securely without any stooping over 700 times each week to pick up a ten-pound stone.



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make the work easier for both the man and team. The tires being wide they do not cut into the ground; the labor of loading is reduced many times, because of the short lift. They are equipped with our famous **Electric Steel Wheels**, either straight or stagger spokes. Wheels any height from 24 to 60 inches. White hickory axles, steel hounds. Guaranteed to carry 4000 lbs. Why not get started right by putting in one of these wagons. We make our steel wheels to fit any wagon. Write for the catalog. It is free.

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The freights from Cincinnati are the lowest.
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Catalog mailed free—send for same.
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Get an incubator that they can run; one that will do good work from the start and last for years. The **Sure Hatch** is made of California red wood, with 12oz. cold rolled copper tank, Hydro-Safety Lamp, Climax Safety boiler and Corrugated Wafer regulator. Send for our big free catalog. It gives actual photographs of hundreds who are making money with the **Sure Hatch Incubator.** Our Common Sense Brooder is the best. Send now.

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Wanted Comb and Extracted Honey!

State price, kind and quantity.

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Best in the World.

None so low in price. Largest illustrated seed catalogue ever printed, FREE. Engraving of every variety. Price only 1 cent per pkg, and up. A lot of extra packages, rare sorts, presented FREE with every order. Send name and address by card or letter.

R. H. SHUMWAY, Rockford, Illinois.

Old Bees More Poisonous Than Young Ones.

When I have forced a very young bee to sting me, I have been surprised at the mildness of the sting. So I am not surprised that Dr. Langer reports the amount of poison carried by a nurse-bee to be .00015 of a gram, while that of a field-bee was twice as much, ranging from .00025 to .00035—[Sometimes the sting of a worker right from the fields is so painful that I feel like groaning—yes, and I do groan—with pain. I am quite prepared to believe that the fielders have twice the amount of poison in their poison-sacs that the home-bees have.—ED.]—Stray Straw in Gleanings in Bee-Culture.

Shipping Comb and Extracted Honey in Barrels.

Henceforth I want all honey in packages of 10 pounds and under in barrels. There is no packing case that can compare to it, anyway you take it. A barrel will hold about 250 pounds when in 5-lb. or 10-lb. pails, which is more than 4 crates of six 10-pound pails each. I prefer empty sugar-barrels, which if purchased when not much in demand (I suppose any time except during apple harvest) they can be had for about 10 cents each. They are preferable to either the regular apple-barrel or salt-barrels.

We can readily see that when compared as to cost the barrel is away ahead of crates; besides, it takes less time to pack and close one barrel than it does our four crates, but the difference here is not so marked, but apart from the cheapness it is much easier to handle a barrel than any other large package that has, or even can be, devised. I would rather handle one barrel of 200 pounds or 250 pounds than half that amount in crates, especially when in one crate.

Then, again, it is handled much more carefully in barrels. It is for this reason I frequently ship comb honey in them. I referred to the contents getting soiled when in crates; there is no trouble of this sort with the barrels, so that I know of no reason why they should not be used in preference, unless the quantity is not large enough. Even then, if you fill the barrel half full it will compare favorably with crates, unless it may be slightly heavier, but they are a gain in this respect when compared to four crates.

As to honey in the comb I prefer shipping in barrels when the quantity is not large and the distance very far. Some four years ago I shipped to 18 different places in the West, one lot going to Edmonton, 200 miles north

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	4.00	7.75
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
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of Calgary, or over 2,000 miles with all the changes incidental to shipping "lake and rail," but in neither this nor any of the rest was a section broken. I have reason to know, as I was on hand to see. The heads were closed in the usual way so that rolling it was probably in order.

Comb honey in barrels has this advantage, there is more spring or "give" to it than when in a box. It stands a good chance of never being so placed that the sections will be exactly the opposite way to what they should be so that the jar and shunting is not so fatal. Honey in crates will be loaded one of two ways—the right or the wrong way, no halfway between. Apart from the "give" or spring this is a strong point in favor of barrels.

As I have already said, it is when shipping comb in small lots or long distances, and not when shipped in quantities, that I favor this method. Just how large a quantity, that I am not prepared to say.—G. A. DEADMAN, in The Canadian Bee Journal.

A Common Course in Bee-Keeping.

Theoretical bee-keeping around the winter's fireside is one thing, and practical bee-keeping in the field quite another. A mere amateur may operate the former, while it not infrequently requires a whole crew of experts, aided by all members of the family, regardless of sex, color or former occupation, together with invited guests thrown in for good measure, to control the latter.

How few of us but have seen men standing around all day in the cold and perchance storm, at "the sale," only for the blessed privilege of paying three or four prices for old, dilapidated hives inhabited by weak or otherwise inferior colonies of bees, and then taking extra precautions about moving their precious treasure, only to find them dead in the spring, or, should a portion survive, keeping them year after year, ever hoping for returns, (presumably on the "open sesame" principle) until all succumb to want and neglect, when the wrecks are converted into kindling wood. This, too, when the amount of the investment would have secured not only the kindling wood, but many a pound of sweetness with which to regale friends and family.—SOMNAMBULIST, in the Progressive Bee-Keeper.

Melting Honey.

Without special conveniences for it the melting of candied honey in 5-gallon cans is not always the most satisfactory. It takes a long time to do it with a slow heat, and with considerable heat there is danger that the outer portion will be injured by the heat while the mass is still solid. J. F. Munday helps matters by stirring the granulated part into the liquid just as fast as it liquefies, thus doing the work in one-third the time, and leaving the honey possibly in a better condition. He says in the Australasian Bee-Keeper:

It is necessary to make or procure a suitable tool for the purpose of breaking up and stirring the candied honey in the tin while it is being melted; this tool I made (and I found it just the thing) from the steel back of an old scythe-blade.

I removed the back from the blade with a cold chisel and hammer, cut off about twenty inches from the point, knocked out or beat down flat the old rivets, and then flattened out the point to the shape of a screw-driver (this screw-driver point I wanted for the purpose of prising up the lids of the cans). I then straightened the rod, as we may call it, with the hammer, scraped off the rust, and polished it with a piece of sandstone and it was done.

The tool requires to be strong and stiff, as great force is necessary to cut up the candied honey in the can. Now for the operation:

When the honey in the tin has melted say ¾-inch around the insides of the tin, put in the stirring-rod, and scrape with it the two sides of the block of candied honey near the mouth of the can, just a little the first time. Then take out the rod say with your right

30 DAYS TRIAL.

on any vehicle we make. Keep it if you like it, return it if you dislike it. We save you dealer and jobber profits. If you want to know more send for our free 22nd annual catalogue.

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Station 33, Kalamazoo, Michigan.

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Queens you should Have

Does blood tell in other stock? Give your bees a chance. Stock used for breeding the queens offered—not from a sport, but my pick out of an apiary giving last season an average yield as follows:

Honey-Gathering.

102 lbs. extracted and 68 lbs. comb honey per colony besides increase and stores for winter.

Quality of Comb-Honey Produced.

"Man! It would dazzle you."—Wm. Envoy, Ontario Government Inspector of Apiaries.

Wintering Qualities.

Up to the present (January 30) I never found these bees to show the least indication of unrest—always perfectly quiet. They are wintering perfectly.—Frank T. Adams, Brantford, Canada.

General Commendation.

Out of those queens you sent me I have produced the best race or strain of bees I ever owned. Remember that is saying a lot, as I have tried every breed imported in this country. The bees winter better, build up, and stand cold chilly winds in spring better, and are more suitable than any bees I ever owned. For the season they gave me about double the honey the pure Italians did, and more increase. Glad you are going into the queen-business, and are going to join the ranks again. We are much in want of a few men like you. C. W. Post, Ex-president Ontario Bee-keepers' Association (owns 365 colonies).

S. T. Pettit, Canada's most successful comb-honey producer and bee-keeper, says: "The blood in my apiary is largely the progeny of queens sent by you, and they are grand bees."

Prices of Queens.

They are duty free to the United States. Tested, $2.00 each; $10.00 for 6; $18.00 per dozen. Untested until July 1, $1.25 each; $7.00 for 6; or $12.00 per dozen. Same after July 1st, $1.00 each; $5.50 for 6; or $10.00 per dozen. Larger quantities, prices on application. Postage stamps taken for fractions of a dollar. To be fair to every one, no selected tested queens are offered. Every one has the same chance. The above queens are bred from a careful selection of Italians and Carniolans. Pure Italian and Carniolan queens same price. Price of full colonies on application. Orders booked as received, and filled as quickly as possible. Order early.

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IN THE WORST

places, on rough ground, with breachy stock, or where other fences fail, wont you try the PAGE?

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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hand, and as you do so, let it pass between the first finger and thumb of your left hand to remove the honey from it. Put on the lid, and let the honey remain in the now boiling water for ten minutes. During the interval, serve other tins the same way; if you have more than one tin melting you can keep a dozen tins going. At the expiration of the ten minutes, you will be able to cut some slices of candied honey off the block in the tin. Stir them about in the honey that is melted till no more will dissolve. Keep on doing so about every eight or ten minutes till all the candied honey is quite dissolved, but not for much longer. The water may boil all the while so long as you cut off and stir about every ten minutes. If you have to leave, you must take the water off the boil by adding cold water to it, as you know.

You will find that your tin of honey will be quite melted in less than $1\frac{1}{2}$ hours, when the honey was candied as hard as possible, and that the color and flavor of it *has not been injured*.

New South Wales Bee-Farmers' Association.

This organization has among its twelve "Rules and Objects" the following, which are somewhat peculiar:

3. To advise members as to suitable localities for establishing apiaries.

5. That every member with more than 50 hives shall be allowed an extra vote for every additional 50 effective hives.

6. No member be eligible for office who has less than 50 effective hives, or his subscription is in arrear.

8. The principal officers be such as will undertake to meet each other in committee at least once in twelve months.

11. Supply dealers or commission agents cannot become members.

12. Members unable to attend meetings or conventions can authorize or nominate any member they know will be present to vote for them on any subject brought forward. Such vote or votes to be in addition to the member's present own vote.

Positions of Eggs in Cells.

On page 10 of Mr. Cowan's book on "The Honey-Bee" is the following paragraph:—"It will be noticed that the egg (fig. 1, A) stands in a position parallel to the sides of the cells, and this position it retains the first day. On the second day it is inclined at an angle of 45 degrees (fig. 1, B), and on a third day it assumes a horizontal position (fig. 1, C), resting perfectly flat on the base of the cell."

Also H. W. Brice says in the British Journal:

"On examining a cells just after an egg is laid we find a small white speck standing on end, attached to the base of the cell, and slightly on one side of the apex thereof; it is fixed in position by a watery, semi-sticky substance, which at this period envelops the whole of the egg. Within a few moments, however, one of the nurse-bees enters the cell—head first, of course—and after a few seconds of activity, withdraws and hurries away to the next cell to 'go on' as before. Now, let us examine the cell again, and we find that the nurse-bee has carefully placed the new-laid egg down on its side and in its orthodox and proper position at the bottom of the cell. The egg from this time forward is a matter of constant care and attention on the part of the nurses, which are persistently examining it, probably to see how it is 'getting on.' On the second day we find the bees have shifted its position to an angle of about 35 degrees; on the third it is again moved to an horizontal position; and on the fourth day it hatches out."

The correctness of this teaching has been called in question, but it is doubtful that any one has actually disproved it. Some careful observations upon the matter might be of interest.

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and our world's best outfit you are absolute master of the situation. Insects and disease fall before this all conquering outfit. See the book. It is free. Write for it now.
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Ask for our price-list and testimonials.
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HONEY AND BEESWAX
MARKET QUOTATIONS.

CHICAGO, March 7.—The decline noted in last quotations are still more pronounced at this time, large offerings of Western comb are pressing for consumption which are difficult to place. Prices are nominally 13@14c for the best white, with travel-stained and light amber, 10@12c, that which is candied selling as low as 7c, with the partially candied at 9@10c. No great amount of dark honey is offered. Extracted is steady in price but slow of sale, white, 5½@7c; amber, 5¼@5½c; dark, 5c, according to what it is gathered from and quality. Beeswax in urgent demand at 30c. R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH CO.

ALBANY, N. Y., Feb. 21.—Our market has not been so empty of comb honey in a long time. Fancy white comb, 15@16c; No. 1, 15c; dark and buckwheat, 13@14c. Extracted, buckwheat, 6c. Beeswax, 30c. H. R. WRIGHT.

BOSTON, Jan. 20.—Strictly fancy comb honey in cartons, 15½c: A No. 1, 15c; No. 1, 14½c; very little No. 2 to offer; stock nominally running No. 1 and A No. 1. Extracted, light amber, 7½c: amber, 7c; Florida honey, 6½@7c.
Our market continues somewhat dull in the demand for honey, while stocks are ample for the balance of the season, unless there should be a much larger demand than we at this moment anticipate. BLAKE, SCOTT & LEE.

NEW YORK, Feb. 8.—There has been very little movement of late in comb honey, and while there is no buckwheat on the market to amount to anything, there is sufficient quantity of the different grades of white honey. The demand having been slow of late, prices have had a downward tendency and are likely to remain so during the spring.
We quote: Fancy white, 14c, and exceptionally fine stock at perhaps 15c; No. 1 white at 13c; amber at 11@12c. Extracted remains dull at unchanged prices. Arrivals of late are quite plentiful of all the different grades. Beeswax firm at 28@28½c. HILDRETH & SEGELKEN.

SAN FRANCISCO, Feb. 12.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Considering the limited quantities offering there is a fair trade in progress, both for shipment and local account. Quotable values are without change, but market is moderately firm at the prevailing figures.

CINCINNATI, Feb. 7.—The honey market has been rather dull this year. Comb honey is selling fairly, and brings as follows: White clover, 15c; lower grades from 12½@14c. Extracted honey sells very slow, the lower grades bringing 5@6c, and fancy, 6½@7½c. Beeswax, 28@30c.
C. H. W. WEBER.

WANTED. EXTRACTED HONEY—either large or small lots: parties having same to offer, send samples, and best prices delivered at Cincinnati, Ohio. We pay cash on delivery. THE FRED W. MUTH CO.,
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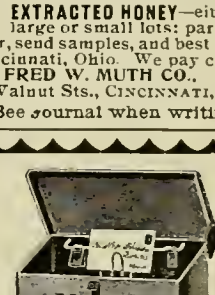

to some people why our Rural Mail Box is so far ahead of the other 13 approved by the Government. Thirteen is said to be an unlucky number, but that is not the reason. We don't mind telling you confidentially "how it happened," if you will write and ask us to do so.
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A Nebraska customer when ordering a new supply of our fine Alfalfa honey in 60-pound cans, said: "The last I got went like hotcakes." So it does.

More people might do well if they would order this honey, or basswood, and sell it. It not only goes off "like hotcakes," but it is mighty good on hot cakes.

See honey-offers on page 171.

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For Sale 15 good colonies in movable-frame hives. Located in Iowa City, Iowa. Prices reasonable. Address, MRS. H. A. HOLLISTER,
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Here is something that will interest you.

"The Danzenbaker Hive I think will take precedence over all others. I am delighted with it, as it is simple, and easily manipulated."

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Nov. 30, 1901.

If you buy the Danz. hive you will find a ready market for your honey. Comb honey in Danz. sections has never yet been held because of "little demand."

EXTRACTED HONEY!

You will need good hives, smokers, knives, and most of all, a good honey-extractor. Root's Cowan Rapid Reversible Extractors are used everywhere, and always acknowledged to be the best. Be sure to get one of our make.

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You should have the best wax-extractors, else large quantities of wax will be left in the refuse. See what one extensive and practical bee-keeper says of the **ROOT-GERMAN STEAM WAX-PRESS:**

For over 20 years past I have had to render up old combs or cappings in larger or smaller quantities, and my experience has been extensive, for I have tried faithfully almost every known method to get all the wax out, but have never succeeded to my satisfaction until recently. I got of you a German wax-press, that comes nearer accomplishing that object than any thing I have ever tried. I am more than satisfied with it, for, if used according to directions, there is little if any wax left in the refuse. Any one used to the old methods will be astonished at the results obtained. In this press you have given those in need of it the best thing, to my mind, you have ever brought out, and I really believe all who try it will pronounce it a real treasure. There are other points of advantage that I could mention, one of which is its perfect safety—no boiling over and setting fire to every thing, and it can be left alone without care for quite a time, and every thing can be kept neat and clean, and it occupies very little room. E. T. FLANAGAN.
Belleville, Ill., Dec. 12.

Root's goods are for sale everywhere. See list of jobbers and agents in the January bee-journals. A full list of local agents sent you on request. We will also send you a little book, "Facts About Bees," describing the Danz. hive, and our catalog, on request.

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are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO.
Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MARCH 20, 1902.

FORTY-SECOND YEAR
No. 12.

WEEKLY

APIARY OF H. W. CONGDON, OF HARDIN CO., IOWA.
—(See page 178.)

THE AMERICAN BEE JOURNAL.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

MR. A. I. ROOT is taking a ride—on a hobby. This time it is starting plants from cuttings in a greenhouse.

THE TWO ROOTS and Dr. Miller have much to say in Gleanings in Bee-Culture about a "personal devil." Do they speak from a "personal" acquaintance?

THE APIARY OF H. W. CONGDON.—Accompanying the picture shown on the first page this week was the following:

As I am always interested in reading the reports of other bee-keepers, I have thought perhaps a report from me would be of some interest to others.

I bought 2 colonies in the spring of 1900, in old-fashioned hives, increased to 4 by natural swarming, and 21 days after I drummed out of the old into new hives. I took off about 120 pounds of honey in the fall, and bought 6 more colonies, 5 in 8-frame standard hives, one in an old shoe-box, and came out last spring with 8 colonies, having lost 2, and bought 22 more in April with 10 extra hives, 2 supers on each hive, and a lot of supplies and old truck for $75. Six colonies were in box-hives. I have sold about $70 worth of honey, and have about 100 pounds on hand for our own use.

All the time I can get to work with my bees is in the morning and evening, and sometimes a few minutes at noon.

I clip my queens, and during swarming-time I hired a small boy to stay in the yard from 8:30 to 3:30, and paid him extra for every queen he would catch, and he very soon got to be an expert at it.

Through the kindness of the owner, I keep my bees in the private park of one of our wealthiest citizens. I have a 4-foot poultry fence around four or five rods, and keep the gate locked, and the bees molest no one. I keep them supplied with fresh and salt water all the season. The yard is right across the street from my house. My son and I have a camera, and have taken up amateur photography. I enclose a picture of the bee-yard. I think I have a very cosy place for the bees, and enjoy working with them.

I get many good points and hints from the "old reliable" American Bee Journal; I could hardly keep house (or bees) without it.

H. W. CONGDON.

THE ONTARIO ASSOCIATION.—In the Canadian Bee Journal we find this interesting historical sketch of the Ontario Bee-Keepers' Association, by Mr. R. McKnight, one of its organizers and an apiarian writer of no mean ability:

It was, I think, in 1879 the Association was organized. The year previous, D. A. Jones rolled ten tons of honey into the exhibition at Toronto, for which he was awarded the gold medal. This created a furore in the country. The next year he called a bee-keepers' convention to meet in the City Hall, Toronto, while the exhibition was being held. In response to that call bee-keepers and prospective bee-keepers gathered in, to sit at the feet of the Gamaliel of apiculture and learn the mysteries of bee-keeping. That was the most numerously attended bee-keepers' meeting that ever was held in the Province. The hall was crowded with people during the three days of its session. The writer had the honor of occupying the chair. That meeting resulted in the formation of the Ontario Bee-Keepers' Association. D. A. Jones became president; I was elected secretary and treasurer. The president, secretary, and the Rev. W. F. Clarke, were appointed to formulate a constitution and by-laws for its government. (When the Association was incorporated and became the recipient of an annual money grant, it was my privilege to modify its constitution and by-laws to meet the new condition of things. I am pleased to know that it has not been found necessary materially to change these since.)

We had no organ at this time. One of our members edited a weekly paper published in the town of Welland; with him we arranged for the use of one of its pages to be devoted to bee-literature. The conditions were—we were to supply the "copy" and I was assigned the duty of editor of the bee-department of the Canada Farmer (long defunct). By and by, D. A. Jones started the Beeton World, to which we transferred our patronage. Shortly after he started the Canadian Bee Journal—then the only weekly bee-journal in America—with the exception of the British Bee Journal the only one in the world. The Journal once became, and still is, the organ of the Association.

I remained secretary-treasurer till I became president, when I resigned the secretaryship, but continued treasurer up till 1892, when, on my resignation of that office, the Association very generously presented me with a gold watch.

Mr. McKnight's memory hardly served him well when referring to the starting of the weekly Canadian Bee Journal. Vol. I, No. 1, of that paper is dated April 1, 1885—4¼ years *after* the American Bee Journal had begun to be published weekly, and 9 months *before* the British Bee Journal began to be a weekly. Previous to January, 1881, the American Bee Journal was a monthly, and up to January, 1886 (and we know not for how long before), the British Bee Journal was a "fortnightly." The Canadian Bee Journal was published weekly for about five years, then was issued for a time as a semi-monthly, and finally as a monthly, which it is now, and has been for many years.

MR. W. A. PRYAL, of Alameda Co., Calif., writing us March 5, said:

"We are having glorious rains here. The year bids fair to be as prosperous for the tiller of the soil and the delver for gold as any we have ever had. I am speaking for the central and the northern portions of the State. The south has had rain, I am pleased to say, but not in as liberal quantities as the agriculturist, etc., could wish. Still, they may have more in that portion of the State. Here all vegetation is looking up grandly; some sorts of fruit-trees are in bloom."

BUCKWHEAT CAKES seem to be in season at Stenog's home. He says in Gleanings in Bee-Culture:

That song for bee-keepers, music by George W. York, words by Eugene Secor, "Buckwheat Cakes and Honey," was received just as the familiar thump, thump, thump of the family batter-paddle was doing its work in making such cakes, rendering the song very appropriate. It is good all through, and all who have music in the house should have a copy.

Went Like Hotcakes

A Nebraska customer when ordering a new supply of our fine Alfalfa honey in 60-pound cans, said: "The last I got went like hotcakes." So it does.

More people might do well hey would order this honey, or basswood, and sell it. It not only goes off "like hotcakes," but it is mighty good on hot cakes.

See honey-offers on page 186.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., MARCH 20, 1902. No. 12.

Editorial.

The Home Honey Market.—On page 182, Mr. C. P. Dadant has an article that will bear reading over several times, or until it is thoroughly learned. We have never been quite able to understand just why it is, that so many honey-producers have not yet been able to see that almost invariably the most profitable market for honey is the home market—right among the people living not further perhaps than five or ten miles from their apiaries.

As Mr. Dadant well says, honey is different from wheat, corn, potatoes, pork and beef. There is always a settled city market for such products, these having become staples, and thus in constant demand. What is needed now is for every bee-keeper to push the sale of honey everywhere until it, too, shall be in demand, equal, if possible, to that of soap and bread.

Small bee-keepers need never fear that the city market will become bare of honey, especially of extracted; for there are the large producers of honey, or specialists, who produce by the car-load—they will keep the large centers of population well supplied with honey. But there is often little sense in any bee-keeper who produces a ton or less, ever shipping it to a city market. There is scarcely a town or village but what, if properly solicited, would use several tons of honey on their tables in the course of a year.

Most people are fond of honey. Only convince them that it is the product of the bee, and they will not be long in purchasing, and also in consuming it.

Bee-keepers need to get close up to the editors of their local newspapers, and induce them to give to their readers information on the use of honey, which information the bee-keeper would need to furnish. It would pay to invite the editor to visit the apiary about the time of taking honey off the hives, and show him how that part of the work is done. Of course, no true bee-keeper would be so forgetful as not to present the vistor with a liberal sample of the sweet product of the hive.

Mr. Dadant has given much good advice in his article on another page, which, if followed, will make this particular number of the American Bee Journal of immense value. There is often almost as much in selling a crop well as there is in getting the crop in the first place—whether that crop is honey or cattle.

An "Infallible" Method of introducing queens was given on page 670 (1901) by A. D. D. Wood, who says there: "This may not be my own invention, yet I have never seen it mentioned." This plan will be found in "A Modern Bee-Farm," by S. Simmins. On page 160 of the 1893 edition, after emphasizing the point that where food is given to a queen confined in a cage, "honey from the same hive should alone be supplied," he goes on to say, "and on no account may any of the bees which accompanied her be placed in the cage; but it is advisable to give her an escort of some half-dozen young workers picked from the comb just after hatching, and taken from the hive in which the queen is to be caged."

This gives occasion to say that this book, written by so practical a man as Mr. Simmins, is well worth possessing. Among the many good things it contains may be found the "Simmins fasting method" of queen-introduction; and the bleaching of sections, which has had prominent mention in this country within the past few years was probably first given in this book nine years ago.

Discrepancies Among Bee-Writers is the underlying text of a discourse from G. M. Doolittle in Gleanings in Bee-Culture. He says a rule in arithmetic and a rule in bee-keeping are different things. Two and two make four always and everywhere; what is true about bees in one locality or season may not be true in another locality or season. So two men may both be right from their own standpoints while appearing to hold widely different views.

The feeding of meal in spring is useless if not mischievous, says A. It is a good thing to give the bees in spring some substitute for pollen, says B. Both are right, although apparently in direct contradiction. In A's locality there is plenty of pollen in spring, either from early flowers, or else left over from the previous year. In B's locality the bees are short of pollen in spring, with no early flowers to yield it. One says put on sections early; another says not till swarming. Both right: one wants to discourage and the other to encourage swarming. So with other things. But the wise reader will get the views of all, and use what best fits his own case.

Instead of ceasing to read the bee-papers because in the nature of the case there will be real or apparent discrepancies, Mr. Doolittle says:

"One hundred dollars per year would not hire me to cease from reading on this subject, for it is to this reading that I owe nearly all the knowledge I possess relative to bee-keeping."

Dangers of Inbreeding.—Since interest has been generally awakened to the importance of striving for improvements in bees, considerable as been said about inbreeding. Some have cited examples from Nature to show how she abhorred inbreeding in the vegetable kingdom, etc. Others have cited examples of important results obtained from inbreeding, and from their writings one would judge that not only should no pains be taken to avoid inbreeding, but that it is the proper thing in the hands of every one. Still others have held that only as necessity compelled should inbreeding be resorted to, and that good results were obtained in spite of, rather than on account of, the mating of two beings closely related.

In the Bee-Keepers' Review, F. B. Simpson discusses the matter at considerable length, and he certainly can not be considered as encouraging inbreeding in the hands of the every-day bee-keeper. While admitting that "inbreeding has done us remarkable service in improving our domestic animals," he thinks the chances of success are so much against it that only one man in a thousand will be successful, and that man in only one of a thousand cases. He says:

So far as I have been able to learn, no man of unprejudiced mind has yet claimed that inbreeding will produce anything that can not in time be produced without it, provided we can supply a sufficient quantity of unrelated individuals. In breeding the domestic animals, the great element of *time* enters into the matter to such an extent that inbreeding has proved a practical necessity; yet there is no reason to believe it will be likewise with the bee, for the generations are too frequent. Also, as inbreeding can not be individual, but only collateral, in bees, it is doubtful whether it will have anything like the same effect for good and likewise for evil as in the higher animals. Furthermore, we have as yet no proof that insects can be made to vary (hereditarily) in as great a degree as the higher animals. It is true that the same laws of development run through the entire system of animated nature, but in her communal relations as against the individual, besides the fact of parthenogenesis, places the bee on a basis decidedly her own.

On the whole, he thinks it would be a good thing in actual practice for bee-keepers to let inbreeding alone until something has been ascertained experimentally as to its results *among bees*.

The Large White Clover (Colossal Lading) which has been highly spoken of in foreign journals stands a chance of being tested in this country, as the Gleanings in Bee-Culture people have secured some of the seed. It may be a great improvement, but too much should not be expected from it. It is not likely that it is large enough to be harvested as hay, and without this it may not be more valuable than the common kind.

Convention Proceedings.

Report of the Michigan Bee-Keepers' Convention.

BY JAS. A. DART, SEC.

(Continued from page 165.)

"BUILDING UP COLONIES IN SPRING FOR THE HONEY CROP."

Mr. Chapman says he puts away more bees than he expects to winter. He unites in the spring, taking two light colonies, puts on one queen-excluder, then puts the other colony on top, removing the queen from the top one. He says there is not much use in uniting three or more weak colonies; it is no better than each one separate.

Mr. Hutchinson agrees in this. He spreads brood later, but only as they can furnish proper heat.

Mr. Kitson says those colonies that have the most honey over winter work best in the spring.

Mr. Hutchinson in earlier days practiced stimulative feeding, but if left with sealed brood they will do better.

Mr. Coveyou advises in a cold snap in spring to sprinkle sweetened water in the front of the hive to save the bees going out and getting chilled. He uses an atomizer in the evening.

Mr. Kirkpatrick sees that the covers are tight, and that no heat escapes.

It was suggested that some one use an empty comb filled with water, or use a sponge for water in spring.

Mr. Hilton and Mr. Hutchinson suggested that in feeding one can put the syrup outside near the apiary, and after the first day it is safe from robbing.

COMB HONEY OR EXTRACTED?

"Which is the more profitable, working for comb honey or for extracted?"

Mr. Kitson says extracted is the most profitable, as the nights are too cold so far north to build comb.

Mr. Pinnell says there is more money in extracted at 8 cents than comb at 14 cents so far north; and counting extra work it is much more profitable. He says this year he run 20 colonies for extracted and 30 for comb, and got more money out of the 20 at 8 cents than the 30 at 14 cents.

Mr. Chapman says he got almost as much comb honey as extracted, but the weather was warm. He says in three-fourths of the years there is more money in producing extracted honey; the expense is no more for comb, as packages cost less; but he suggested that with a local trade the cans can be returned.

Mrs. Morrow says this past was the best year she has ever seen for selling honey.

Mr. Smith thinks the locality determines. He is in the coldest place in northern Michigan, and can't do well working for comb honey.

TOO MUCH POLLEN IN THE BROOD-NEST.

"Are we ever troubled with too much pollen in the brood-nest?"

Mr. Smith says it may bother the bees, but it does not bother him.

Mr. Chapman advises putting comb containing too much pollen in the center of a good brood-nest, the pollen will disappear.

SECOND DAY—JAN. 2.

Pres. Hilton, having contracted a hard cold, left for home, and the meeting was called to order by W. Z. Hutchinson.

CLIPPING THE QUEEN'S WINGS.

"Does the clipping the queen's wings shorten her life?"

Mr. Chapman shortens her life himself, and does not try to see how long she will live; also Mr. Kirkpatrick. Mr. Coveyou says he sees no difference, and others agreed.

E. E. Brown says he had a clipped queen live six years.

"How do you clip the wings?" was asked.

Mr. Kitson holds the queen by the wings on one side, and clips both wings on the other side.

Mr. Chapman, Mr. Kirkpatrick, and Mr. Pinnell, pick the queen up by the thorax.

Mr. Coveyou clips just at the time of fruit-bloom, when laying freely, and when workers are out gathering. He takes hold of the legs and wings on one side.

Mr. Smith advises clipping earlier in the spring; and holds the queen by the thorax.

Mr. Hutchinson picks her up by the wings on both sides, and then clips one wing.

Mr. Bartlett uses a queen-clipping device.

SHALLOW FRAMES VS. STANDARD IN EXTRACTING.

"In the production of extracted honey what preference has shallow frame over standard Langstroth?"

Mr. Coveyou says if any advantage it is that one can uncap with one stroke, and might get more uniform color of honey.

Mr. Chapman sees no advantage.

Mr. Smith prefers the Heddon frame (shallow), for the same reason given by Mr. Coveyou.

Mr. Kirkpatrick likes the Langstroth frame as there are less frames to handle.

Mr. Brown says he can handle two shallow frames quicker than one Langstroth, and bees go up quicker in the spring. He thinks deep frames make the honey darker. He uses one frame less than the super's size, as 9 in a 10-frame super.

Mr. Chapman starts the bees up in 15 minutes after putting on the super. He puts a frame of brood in the super and waits until the bees are ready to go up. He extracts when two-thirds capped, and thinks 7 frames in an 8-frame super is too wide. He likes 9 in a 10-frame super, and wants 14 to 20 frames of brood, thus making the queen do all she can in one year; then he kills her.

Mr. Kirkpatrick thinks there is a disadvantage in the shallow frames. He can't bait bees up. He uses 7 frames in an 8-frame super.

Mr. Coveyou doesn't like to put the brood up, as it makes darker honey above.

Mr. Chapman thinks it is a waste to force the queen to fill the top and corners of frames with brood. He gets better results with 50 strong colonies than 100 less populous.

Mr. Pinnell thinks all frames in the yard should be of the same size.

BEST DEPTH FOR BROOD-FRAMES—QUEENS.

"What depth frames are best for the brood-chamber in this region?"

Mr. Coveyou has two sizes—the Langstroth for old hives and the shallow for swarms.

"Is the queen most valuable before one year old, or afterward?"

Mr. Coveyou says she is best the second year.

Mr. Dart says he finds queens as good the second as the first year.

"How is it best to find a queen in a populous colony?"

Mr. Chapman looks till he finds her, in the middle of day, in July.

Mr. Hicks asked why he hunts in July.

Mr. Chapman said because he hunts them up to kill them except in the very best colonies. He thinks drones are as important as queens, and uses the best queens for rearing drones.

BEST BEES FOR THE NORTH.

"What is the best bee for the North—Italians, Blacks, or Carniolans?"

Mr. Kitson says the Carniolans are more gentle.

Mr. Chapman gave the Carniolans good trial, but gave them up. He says they are the hardiest bees, but they rear drones anyway; will tear out comb and make drone-cells; also swarm too much.

Mr. Kitson says Carniolans build up quickly in spring.

Mr. Coveyou says Carniolans are good to get up an apiary quickly; then change to Italians.

General experience: Carniolans swarm too much.

Mr. Hutchinson says Carniolans build up quickly but swarm too much; he doesn't think them more gentle.

INBREEDING OF BEES.

Mr. Smith has inbred for 20 years, and takes no stock in the talk against it.

Mr. Hutchinson says there is not much danger, as there are so many bees in the country.

Mr. Coveyou says beginners have a good deal to do in getting hardy bees, by their losing the weaker in winter and breeding from the remaining strong ones.

Mr. Pinnell thinks it best to keep good strain.

Mr. Chapman thinks it is better to cross. He says a hybrid queen did good work, but he tried rearing from one and could not duplicate her. He thinks it safer to buy a few good queens.

PLACE OF MEETING—ELECTION OF OFFICERS.

It was moved by Mr. Chapman that the next annual meeting be held at Lansing, at a time to be set by executive committee. The motion was seconded, and carried.

The election of officers resulted as follows: W. Z. Hutchinson, president; Geo. H. Kirkpatrick, vice-president; James A. Dart, of Petoskey, secretary; and Samuel D. Chapman, treasurer.

Former treasurer, W. Z. Hutchinson, reported a balance on hand of 65 cents.

LOCATING OUT-APIARIES.

"What are the essential points to be considered in locating out-apiaries?"

Mr. Chapman advises locating so that bees will take advantage of all of the pasturage; not too close to a small patch, as the bees will work that to death. Pick the location so that there is good pasturage in equal distances surrounding. He prefers three miles between good-sized apiaries, the distance depending on the pasturage and the number of colonies. He says he gets little basswood now, mostly raspberry to take its place; uses a tent in the out yard, and pays farmers $10 a year for a location in an orchard, and gives the farmers all the honey they want.

Mr. Kirkpatrick says 3½ to 4 miles bees worked successfully on basswood.

Mr. Smith never saw a bee over two miles from home.

Mr. Coveyou has had bees work successfully 2½ miles, and a neighbor 4 miles away had bees come four miles to his place.

INCREASE BY SWARMING OR DIVIDING.

"Should we increase by natural or artificial swarming? Which is the better practice to get white honey? and what method?

Mr. Chapman takes the queens away after the spring flow after queen-cells are capped. He takes a comb having capped queen-cells, making increase in that way. He has no swarming.

FRUIT-GROWERS AND BEES.

"Can a fruit-grower afford to be without bees, provided there is no bee-keeper within two miles of his orchard?"

Mr. Woodman says some fruit-growers in his region say the yellows are spread by bees, but he had one neighbor raising pickles who had a double crop while the apiary remained there; that it would be better for a fruit-grower to keep bees.

Others said they would keep bees, and that honey-bees are earlier at the work and more to de depended upon than other insects.

The afternoon meeting was enlivened by music. A quartet of Petoskey singers beautifully sang, "The Hum of the Bees in the Apple-tree Bloom," and "Buckwheat Cakes and Honey." Emmet Co., Mich.

Report of the Vermont Bee-Keepers' Convention.

BY M. F. CRAM, SEC.

The meeting of the Vermont Bee-Keepers' Association was held at Vergennes, Dec. 18, 1901. It was a joint meeting with the Horticultural Society, they holding their meeting the day before, with a joint session in the evening.

The meeting was opened with prayer by H. L. Leonard; the secretary's and treasurer's reports were read and adopted; and the following committees were appointed by the chair: On nomination, H. L. Leonard, W. G. Larrabee, and R. H. Holmes.

R. H. Holmes and M. F. Cram were appointed to confer with a like committee of the Horticultural Society, to see if the two societies would best unite and report at the next convention.

CAUSE OF RECENT WINTER LOSSES.

W. Blackmer—The loss was caused by dysentery. The disease was caused by young queens laying in winter, and by being confined for too long a time without a flight.

W. G. Larrabee asked why bees die with honey close to the cluster. The cause is not known.

A. M. Hill inquired whether to winter his bees in a cellar with the temperature 32 to 38 degrees, or in his fruit house. He was advised to do neither. Mr. Leonard said he would not risk his bees in a cellar where there was frost or that lacked ventilation.

Mr. Lowrey said that at the Vermont Experimental Station, two years ago, they lost 22 out of 25 colonies packed with sawdust on top and all around. Last season they lost one out of 16 packed with planer-shavings.

BLEACHING HONEY.

J. E. Crane said he had more or less stained honey. Last year he had bleached some of his darkest honey so it passed for No. 1. He had built on a room 10x13 feet, with glass on three sides of the room. He can bleach 1000 pounds at one time. He used sulphur, but not too much, as it gave the comb a green color. In a room containing 850 cubic feet, burn 6 ounces of sulphur, then let it stand 20 minutes. He had to do it several times to make the comb white. This season the color was caused by propolis. He showed several samples which had been bleached by the side of that which had not been bleached. Out of 6500 pounds, 500 pounds could not be brought out to No. 1. One sulphur bath would not do as much as a week of sunlight. When the combs are slightly stained, they can be brought to a pure white; but when badly stained it can not be removed at all. If he were to build another room he would have it light overhead.

G. C. Spencer—Would it turn the comb yellow?

Mr. Crane—It would not.

Mr. Holmes—What makes some honey so yellow?

O. J. Lowrey—It is caused by the bees working on corn, but the yellow largely goes off in time. The temperature has not much to do about bleaching, but it helps ripen the honey.

Mr. Crane had not been able to discover that the honey was injured by bleaching. He thought it had paid him financially for building the room.

How can this stain be prevented? was asked. The only way is to take off the honey as soon as completed. Black bees make the comb look whiter than the Italians.

CONTROLLING SWARMING IN OUT-APIARIES.

Mr. Holmes—He had some help in each yard, but that was not what he wanted. It was when he left the bees without an attendant. They must have plenty of room to keep down the swarming-fever.

Messrs. Blackmer and Lowrey remove the brood and let the bees go back on starters or full sheets of foundation.

Mr. Lowrey uses queen-excluders 14 by 2 inches.

Mr. Larrabee thought the swarming instinct could be bred out. He had brought home from an out-apiary 15 colonies which had been run 10 years for extracted honey, and not one offered to swarm in 1900, or until late in 1901, although run for comb honey.

A vote of thanks was extended to the people of Vergennes for the use of hall and lights.

AFTERNOON SESSION.

The committee on nominations nominated the old board of officers, and they were re-elected.

WAX-PRESS—LONG-TONGUED BEES.

Mr. Crane talked on the use of the wax-press, which was very instructive. We have been losing a large amount of wax by not having proper facilities for extracting the same.

Mr. Leonard spoke of long-tongued bees, saying he had not measured their tongues, but had measured the other end of the bee a good many times, and it reached clear through his pants, and some besides.

Mr. Crane thought there was something in long-tongued bees, but it was more in the hardiness of the bee. He had known that some of his queens had transmitted desirable qualities for two or three generations. He spoke of one queen he purchased whose bees had produced more honey than any other colony in the yard, and had capped their honey in a very peculiar manner, so much so that he could distinguish it after it was all mixed up with other honey.

Mr. Lowrey read a paper on the loss of virgin queens.

Mr. Holmes—There is more loss some seasons than in others.

RESOLUTIONS.

WHEREAS, An All-Wise Providence has seen fit to re-

move from our midst the wife of our friend and brother, V. N. Forbes: therefore, be it

Resolved, That the members of the Vermont Bee-Keepers' Association, in convention assembled, do hereby extend our heartfelt sympathy to our brother in his deep loss and bereavement.

The above was unanimously adopted, and voted to send a copy to Mr. Forbes, and also to record it on the journal of the Association.

A vote of thanks was extended to the Central Vermont & Rutland Railroad Co., for reduced rates of fare.

The time and place of the next meeting was left with the secretary to confer with the secretary of the Horticultural Society, and they to decide. — M. F. CRAM, *Sec.*

Orange Co., Vt.

Contributed Articles.

The Sale of Honey—Increasing Its Consumption.

BY C. P. DADANT.

In the article on page 88, I showed that there has been a perceptible change in the conditions of the honey market, due to the better knowledge that the people in general, or at least the better-informed classes, have of the manners of production now in vogue. On page 46, I see a quotation showing how the people can be educated to the use of pure granulated honey. This is exactly in the line of my experience, and I wish to insist a little more on the necessity for the large honey-producer, and, in fact, for the readers of our bee-papers in general, to extend their efforts in the direction of vulgarizing, or spreading, among the masses the information concerning the latest methods of bee-keeping, and the manner of recognizing good, wholesome honey.

The need of the present generation of honey-producers is not only to make their pursuit truly known, but to increase the consumption of an article the production of which has been probably increased one hundred-fold in the past 50 years.

The most potent cause of the low prices in honey has been the custom prevalent among bee-keepers to ship their crop to the large centers without previously investigating the possible chances of sale in their vicinity. Allow me to make an example of this in an altogether different line, which will probably serve well as an instance of what may be achieved by seeking a home market.

There is quite an extensive production of grapes in this vicinity. The city of Nauvoo, some 11 or 12 miles from here, is renowned for its grapes of all varieties. The bulk of the crop is shipped to Northern points—St. Paul, Duluth, Minneapolis, Chicago. We grow grapes ourselves on a comparatively large scale, having some 12 acres of vineyards, and we have often been tempted to ship our crop as the Nauvoo fruit-growers do. But after investigation we have found that in ordinary seasons, especially when there are no apples, the peddling of grapes among the farmers and in the neighboring towns would bring more per pound for the grapes than could be realized in the North, in countries where a grape is never grown, owing to the cost of shipping and distributing. We have made sure that a basket of grapes could be sold to a farmer, besides paying for the peddler's time, for more than the same basket would bring, net, on the St. Paul market. There have even been times when the grapes shipped to those common points brought so little money that it would have paid the shippers to have crushed them into wine, even if they had only been able to sell this as vinegar.

On the other hand, some seasons, when the crops in the large producing districts were small, the prices in those Northern cities was away beyond what could be secured here, so that the success of sales has resolved itself in watching the markets, but especially in first trying the home sales on as large and extensive a scale as possible.

The producer of corn, oats, wheat, the hog-raiser, the horse-breeder, do not need to hunt about for a market, because they have daily reports of the least fluctuation, and they find dealers in the commodities they produce right at home, in every town. But the growers of grapes, as well as the producers of honey, are in no such circumstances. So they must take more pains if they would be sure of securing the best prices that their goods will command.

To find a home market it is necessary to push it, but when it is properly canvassed one will be surprised at the amount that can be disposed of. It is, however, useless to expect the same success every season. Many things go toward making or injuring the sale of an article, and one can not expect that the demand will be the same each year. If the fruit crop is large, both honey and grapes would be of slow sale. But there is always a very fair market for a properly-packed article, offered in a particular manner, with a good guarantee of purity.

The fact is, that no matter how careful you are, how diligently you canvass the retail stores, and the homes of your neighbors, you will find that some articles in your line will still be brought from the large centers for sale in competition with your own product. But what a loss to the producer when his goods have to go to the large market and work their way back again, through the commission man, the wholesale house, via the railroad both ways! If it is not your own honey, it is perhaps that of another producer just as far away as you are, and if this product comes in competition with yours at a low price, you may be sure that he has not realized much on his shipment. How many of my readers have shipped honey to a large city and have been sorry for it. And perhaps they have laid the blame of the low price on the commission man. But let them remember that the fault is mainly theirs, because they have not taken sufficient pains to seek customers. Perhaps their very next-door neighbor would have purchased honey if they had only offered it at a reasonable price and in neat shape.

In seeking a home market, however, there is one stumbling-block, that is, the possible competition of two or more producers in the same goods. This competition will not assume an unpleasant shape, if the producers understand their interests enough to join hands and agree on prices. This is where the local bee-keepers' association becomes useful. A judicious discussion of conditions will readily point the prices at which goods may be sold in any locality to satisfy both producers and consumers.

There is nothing impracticable in the points I have shown. The only thing needed is to take hold of this matter in the right way. There are plenty of associations at work, and many bee-keepers are doing that which I would like to see the great mass do—seek an extensive home market for their product. Hancock Co., Ill.

Forerunners of the Movable Comb.

Gleaned principally from Bienenvater, Imkerschule, and other German and Austrian bee-papers,

BY F. GREINER.

As we have it in use to-day, the movable comb is not the product of one man's brain. We Americans give Father Langstroth all the credit; the Germans feel equally grateful to Rev. Dzierzon and Baron Berlepsch for the same discovery. However, there were other men before Dzierzon, Berlepsch and Langstroth who conceived the idea of making combs movable, and succeeded more or less in accomplishing this object.

During the earlier part of the 18th century a hive was in use in Greece which might demand the name of a movable-comb hive. It was made willow-basket fashion, wider at the top than at the bottom, coated with clay inside and out. Bars were fastened across the top at proper distances to answer as comb-carriers. If it was desirable to divide a colony, half of the combs and bees were taken out and transferred to another hive. Honey-combs could be removed if wanted. It is not improbable the knowledge of these hives may have come from the Egyptians, for the Egyptians were well advanced in bee-culture long before other nations had any knowledge of bees. It will be remembered that Solon made a trip to Egypt about 600 B. C., in the interest of apiculture. The same kind of a hive is also found on many islands of the Mediterranean Sea. Della Rocha, residing on one of them, describes this hive in 1790. He also constructed and describes a two-story hive with bars.

The hive used on the island of Sicily may not have been the outcome of the desire to make the combs movable, or the brood-chamber divisible, as much as to make use of the material at hand. The hive consisted of little frames about 9 inches square, made of bamboo sticks 1½ inches thick. These frames were fastened together by fine wooden

ins, sometimes as many as 25 or 30, and were coated on the outside with clay.

Hives consisting of several separate chambers were used in Sweden and England during the 17th and 18th centuries. J. L. Christ, of Nassau, describes such hives in 1783. He also made use of the bar in connection with the separate honey-chamber (super).

Reaumur made many valuable discoveries regarding the natural history of the bee in his one-comb glass hive during the forepart of the 18th century. The blind Huber united a number of such combs—regular frames—by hinging them together. Thus he constructed a hive which could be opened like the leaves of a book.

Felix Pina introduced a simplified Huber hive into Austria, and wrote a work on bee-keeping soon afterward.

Propokowitz, a Russian, is said to have used a hive with a separate honey-chamber filled with regular Langstroth frames as early as 1812.

We observe, then, that Genius has been at work a long time on the problem of how to make the combs of the bee-hive movable, and get the most out of bees, even before Langstroth and Dzierzon were born. And, after all, had it not been for Langstroth and Dzierzon—although we may not make use of the exact appliances as they gave them to the world—we might be to-day using the old box-hive, and know but little more about bees than was known a hundred years ago.

Ontario Co., N. Y.

No. 2.—Desirability of Long-Tongued Bees.

BY PROF. A. J. COOK.

It is patent from my last article, that the length of the tongue varies in different bees, and very markedly in those of different races. It is also important to remember that the bees of the same race, and notably those of the same colony, vary but very little, as compared with those of different races and in different colonies. The yellow races possess the longest tongues, and the Cyprian and Syrian bees stand in the lead in this peculiarity.

ARE LONG TONGUES OF VALUE?

This would seem to go without saying. Is the long neck of the giraffe of importance in the desert, where the very uppermost leaves of the shrubs may stand between it and starvation? Not only the red clover, but many other flowers have long tubular corollas. In many cases whole families of plants have these long, slender flower-tubes. We all know that seasons vary greatly in favoring nectar-secretion. A cold wind, or spell of weather with low temperature, may shut up the nectar-secretion of the flowers as absolutely as winter itself. Some flowers are much more susceptible to such influences than are others. Suppose, then, that in the season of clover or linden bloom the season is unpropitious, and that later come some flowers with these long corollas, and also the genial warmth and sunshine that favors nectar-production, then plainly the bees with long tongues will come to the front, and a few hundredths of an inch in length of tongue may stand between life and starvation. The cold may chill to inaction the nectar-glands of clover, linden, and sage, while possibly some wild plants with deep flower-tubes will prove more hardy, and will yield an abundance of honey to such bees as are able to reach to it.

I have frequently seen, as have many others, the red clover swarming with yellow bees—Italians or Syrians—while not a black bee could be seen on the bloom, though the black bees were quite as numerous in the neighborhood. I have seen the same thing in observing wild flowers, in both Michigan and California. There is no doubt whatever that the bees with longer tongues are a decided advantage in any apiary. Bees with shorter tongues may still, in certain cases, gather more honey, for reasons of superiority in other directions, but not because of their shorter tongues, which are certainly never a disadvantage, but in spite of these.

The very best bee will be better in every way, and certainly will be appreciated in value if among other anatomical, physiological and temperamental peculiarities it has the longer tongue.

To breed bees, then, with longer tongues, and clover with shorter corollas, would both be of advantage, but the former would be of most service to the apiarist, for then the bees would glean from all deep-tubed flowers, and not simply from the clover.

CAN WE BREED LONGER TONGUES?

There can be no more doubt that this can be done than that the sun will rise to-morrow morning. All organisms—plants as well as animals, and all animals, from the lowest protozoan to man himself—are alike embraced under the laws of breeding. Those interested in this subject should read Miles' "Stock Breeding," or, still better, the classical work of the great Darwin, "Animals and Plants Under Domestication." All animals tend to vary. This tendency may be inherent, or, more likely, is the result of environment. Selection, either by Nature or man, will continue and fix these variations.

Through the three laws—variation, inheritance, and selection—the world is indebted for its wonderful varied life. Through the wiser, sharper selection of man, our cultivated plants and domestic animals have developed races with astonishing rapidity. The American trotting-horse has been created within the memory of those living, while the Poland-China hog—another valuable gift to the world from American breeders—is the product of but a few years.

IS THE BEE AN EXCEPTION?

I believe the bee would show exceptional susceptibility to such modification. Nature, unaided by man's keen observation and painstaking selection, has made or developed several races of bees. The Italian, the Cyprian, the Syrian, the Egyptian, the German, etc., are not species, but races of the one species—Apis millifera. Where else in all the realm of life do we see so many Nature-made races as in the species of our honey-bee? I know no other example at all comparable to this. Surely, if our bee is so plastic in the duller, more plethoric hands of Nature, what may we expect when man applies the well-known laws of breeding towards its modification, along any desirable line? We have seen what man can do with the bee in color. He can add rings at will, or cover all with gold. If color were as valuable as a long tongue, we should have a still more valuable bee to-day than are our best strains of Italians.

Again, I know of no animal with such wonderfully varied organs as has the bee, and such a multiplicity of them. Glands, mouth-organs, legs, stomach, even the hairs, are marvels of varied modification. Man is only wonderful in his brain and hand, while the honey-bee has a half-score of marvels to exhibit. This has all been done in the slow, plodding machinery of Nature. Let man, eagle-eyed, take the honey-bee in hand, and with some worthy ideal—not color, which has only the virtue of pleasing the eye—in mind, and he may mold any product he may desire. This is as sure as that love will always conquer.

I know that the difficulty of controlling mating stands in the way, but the plucky breeder will easily find ways to conquer this difficulty. As I have urged for years, there is certainly a brilliant success awaiting the man of pluck and genius who will attack this problem, guided by the best that is known regarding the laws of breeding. Bates, Booth, and Blakewell had not such a field of promise, nor such preparation as he may easily gain, and yet what an enviable record they made for themselves, and what a legacy they bequeathed to the world.

Los Angeles Co., Calif.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

BREATHING AIR FROM A PAPER-BAG FULL.

We find it nearly or quite impossible to keep from breathing for any length of time, even in poisonous gas, or with head under water. We know an attempt to breathe can only draw water into the lungs—or choking gas—yet we breathe in spite of ourselves. An excellent device to get on disobedient Nature's blind side is given on page 100. Big paper-bag full of air, and tied around a short length of rubber-tubing, the other end to be held in the mouth. This is really better than no breath, and if it could get as bad as none it would still help us keep from doing worse. If we find it necessary to stay in sulphur fumes, or fumes of

bisulphid of carbon, it's well to have this simple device in mind. I think its most valuable use would be in saving life or property at a fire. Personally, I am so intolerant of smoke that I would often be thankful for such a device at outdoor fires.

HOW TO TIE UP COMB HONEY.

I don't believe, Mr. Davenport, I should like driving nails into sections of honey, to hold them together on the road to the customer's pantry—but then I might—perhaps it's the sound of the thing that repels me. Like yourself, I also used lath crates awhile for the purpose, and quite a bit different from your style of thing. Presume I also experimented with heavy strings, although my memory on that point is not very vivid. As I never could tie a string anyhow, quite likely my string packages never won my confidence enough to be trusted to start out. But at last came the great Marconi discovery, that paper around the outside held by ordinary wrapping-twine was the right way. Don't you think, brethren, that I'm generous to give it to you "mitoud a cent?" Use newspaper sheets just big enough and lots of them, *big* lots of them. There is really a little art in rolling the sections into the paper tightly, and quite a bit of art in folding the ends without marring the outside honey. Properly done, the package will stand quite a blow on the ends, which are projecting and puffy. Page 103.

NOTE THE LONGEVITY OF BEES.

F. Brown, of Florida, wants some one to say why his champion honey-gatherers live longer than other bees. I waive the question, and hail as a valuable item the *fact* of extra longevity being attested. That is a fact we greatly need to establish before we go much further. I'm glad a competent man shifted the queen three times and observed the age of the left-behind bees. Don't be entirely dashed if daughters fail to transmit. Try granddaughters, and perhaps they will. But I'll grant that holding mainly to stock that produces uniform queens is a good plan. Page 105.

CARBOLINEUM TOO STRONG A FUMIGATOR.

Don't believe we have much use for a chemical so strong that the fumes take the skin off the painter's face. This is anent carbolineum as mentioned on page 108.

ANTS AND WET LOCATIONS.

I freely yield to Mr. Lovesy as to knowledge about ants. All we have here in Ohio are mere insect "uncles" compared with those he tells of in Utah. The suggestion to put the apiary on very wet ground seems to be a good one. A wet location is not to be chosen on its own account, however. Dry locations much the best, other things being equal. Page 108.

ROBBER-BEES AND THE ROBBED.

Yes, that's a matter on page 115 that I have sometimes longed to know; yet I have never thought of it when there were convenient means of finding out. Is the pile of dead bees in front of a hive from which robbers have been repulsed all robbers? or do robbers in the last extremity do their best to kill? If they try to kill of course they part of the time succeed. 'Spects now we shall hear.

THE BOTTOMLESS CELLS OF STINGLESS BEES.

You didn't say whether the comb you got with the little stingless bees was paper or wax. If of paper perhaps the seemingly bottomless cells were not exactly so in fact. Capped brood of our own paper wasps is in one tier only, but only one end is ever opened. No good, the door-keepers among our bees would vote the Mexican tactics of stopping the door all up with one's own body. Business-end pointed away from the enemy. But stingless bees stand off enemies by biting them; so their tactics just fits their structure. Some of them have jaws that will snip a hair off quick as a flash—and bite so terribly, and "go in" so boldly that the man who gets among them votes their stinglessness to be in the nature of a humbug. As belligerents they seem from reports to be about as fierce as ants; and if ants could fly we would keep at a pretty respectful distance. Very interesting (and all in our line) to see bees carried to southern Mexico to pollenize coffee-trees and fruit-trees. Page 115.—[It was a wax-comb, of course, else we would have mentioned it, Mr. Hasty.—EDITOR.]

The Premiums offered this week are well worth working for. Look at them.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Closed-End Brood-Frames.

If the closed ends of brood-frames warm the hive in comb-building, are they not warm for winter also?

Granting that closed ends are desirable, why not have them in the Langstroth hive?

I have long had an idea that a dovetailed hive with the side-boards built two or more inches longer than usual, and thin end-boards mortised or let in at the right distance from the true end-piece or outside end, so as to take the Hoffman frames, but a super that takes an extra row of sections, would be a good hive for outside wintering. My plan is to get a hive that is 10-frame in size, has chaff-packed ends, and in the fall all the preparation necessary is to take out two end frames and insert in their places chaff division-boards, and place a chaff cushion over frames.

Would not this arrangement give a combination of the closed-end frame and the chaff-hive? Has such a hive ever been tested? If so, what were the results? ILLINOIS.

ANSWER.—Closed-end frames have been used in various ways, and there is nothing to hinder using them with Langstroth frames. Of course, the greater trouble with bee-glue, and the danger of killing bees, is to be considered. I think such an arrangement as you propose, or something very similar to it, has been in use more or less, beginning years ago, but the number of such hives does not seem to be on the increase.

Was It Buckwheat Honey?

I think I did well last year, considering the dry season. I started in with 18 colonies in the spring, mostly black, and increased to 54, and took off about 1000 pounds of comb honey, mostly from buckwheat. How is it that my surplus came from buckwheat, and the color is so white, and the flavor so fine, that I can sell it all for white honey? A few boxes were filled, and the body of the hives were filled, after the buckwheat flow was over; it, too, was of the same color. I think that came from what is called here "wild sunflower."

I have been able to sell all my honey here for 14 and 15 cents per section—14 cents by the case, and 15 cents per single pound. A great many merchants here want to weigh the cases of honey. I tell them they may weigh it if they want to, but if they buy it will be by the section instead of by the pound. I think that is the stand all bee-keepers ought to take. MINNESOTA.

ANSWER.—I don't know the answer to your conundrum, but if you will let me shut my eyes and guess, I will guess that your buckwheat honey came from some other flowers than buckwheat. One year a piece of buckwheat was close to my house, and I could see the bees working on it a little sometimes, but they never stored enough from it to give a smell of buckwheat to the surplus, and that's about equivalent to saying that they didn't store anything from it. Buckwheat is by no means reliable as a yielder in all places, even when it blooms abundantly. Possibly the wild sunflower was in bloom at the same time as the buckwheat, but I'm not sure about the color of sunflower honey.

Foundation Starters—Queenless Colony, Etc.

1. If I use comb-foundation starters and put them in the frames some time before I use them, will the worms be likely to bother them? If so, can I prevent it?

2. Last fall I had a queenless colony; it had several queens hatch out, I think, but the drones were all gone. Afterward, every drone-cell in the hive seemed to have six or more eggs in them. Was it a no-account queen, or laying worker, or what?

3. I bought a full-blooded untested Italian queen, and she laid all right for some time, and then disappeared. Do

you suppose she died, or they killed her? There were several young ones sealed up when I looked in the hive, and they hatched out about the same time as the one previously mentioned. I united both with one, and I thought it had a good hybrid queen. I looked in the hive yesterday (Feb. 24) and found what drone-comb they had was full of young drones, and some able to crawl about. They looked like full-blooded Italian drones. Do you suppose they have one of those young Italian queens? If so, do you think she can ever be of any account? If not, what would I best do? There are a good many bees now.

4. I have a colony of rather short bees, and they don't look like Italians, hybrids, or blacks. They almost try to sting a shadow, and store more honey than most of my other bees do. I don't know where they came from. Can you guess what race they belong to?

5. Sometimes I see blacks, and 2 or 3 banded bees in the same hive. Have they the same mother? ALABAMA.

ANSWERS.—1. No, there will be no trouble whatever.

2. Laying workers.

3. I don't know the cause of the queen's death. You can hardly expect any good from the colony, and the best thing is to unite it with another.

4. No, I don't know.

5. Yes, the same mother may produce bees that look very unlike. When an Italian queen mates with a black drone, the worker progeny may vary all the way from pure Italians in color to pure blacks.

Bee-Houses and House-Apiaries.

I live in the city, and can not keep bees unless I keep them in a bee-house; nor can I devote much of any time to them during working hours; so I wish to keep them as nearly non-swarming as possible. I have a fine little grove of young trees in my yard—a nice place to keep bees. There is plenty of white clover here, and but very few bees around. I have the "A B C of Bee-Culture" and "Bee-Keepers' Guide." I can not make a cellar that will be suitable to winter bees in, on account of it being somewhat low and springy. I see in the books that a good bee-house will be all right if made right, and I have decided to make one next summer, so as to have it ready for the bees when I put them into winter quarters. I have also decided to use the deep or Jumbo hive, and to run for extracted honey.

1. Will the Jumbo in the bee-house make them practically non-swarming?

2. I have thought of keeping the house warm with hot water when it got too cold. Will that do any harm to the bees if the temperature is kept between 40 and 46 degrees with hot water?

3. Will it need to be so warm if I put a casing around the hive, and a good cushion on top?

4. If I divide each colony into two colonies, will there be any danger of swarming the same season, providing I divide just before they get ready to swarm?

5. Would you advise using the shallow extracting super on the Jumbo hive, or a division-board in the brood-chamber, and extracting often enough to keep the bees working?

6. Will it be advisable to feed in spring with a division-board feeder so as to stimulate brood-rearing?

7. Will a bee-house 10x12 feet, inside measure, by 8 feet to the rafter-plate, be large enough for 24 colonies?

8. How much more extracted honey will a colony produce than comb honey?

9. Where can I get insurance on the bees and supplies I have on hand?

10. Have the plans for a good bee-house changed since the "A B C of Bee-Culture" gave its plan for building? If so, please give plans.

11. Would you advise Italianizing my bees?

I hope you will excuse me for asking so many questions, and taking up so much of your time. MINNESOTA.

ANSWERS.—1. It is hard to tell just what will be the case with you. Some report almost entire freedom from swarming with the Jumbo; but with me it seems but little better as to swarming than smaller hives. Yet your working for extracted honey makes an important difference.

2. It depends on how you use the water. If you carry vessels of hot water into the house, letting them stand open, it will not do at all. It will be all right if you use hot water pipes, or if you use jugs of hot water tightly corked, or if you use the hot water closed in any way so there is no chance for any vapor to escape in the house.

3. It will make some difference, but not such a great deal.

4. It will help, but will not be a sure preventive.

5. Use shallow extracting frames, and leave the brood-chamber undisturbed.

6. Until you are an experienced bee-keeper you will do well to let stimulative feeding alone.

7. Yes.

8. I don't know. The estimates of different persons run all the way from saying there is no difference, up to more than twice as much.

9. In other countries there are special insurance companies connected with bee-keepers' societies, but I know of no such companies in this country. The best way for you to do is to inquire of insurance agents in your neighborhood.

10. I think there is no material change.

11. Yes; by all means.

I am almost sorry you did not make out the even dozen by asking me another question, that is, whether I would advise you to build a bee-house. If you had asked that question I should have told you that while some have been successful with house-apiaries others have not, and that the last I knew about it the one in "A B C of Bee-Culture," shown with eight sides, had no bees in it. The only reason I don't tell you this now is because you have not asked the question.

Bee and Honey Statistics.

In reply to inquiries, Editor Root gives the following interesting figures in Gleanings in Bee-Culture:

There are no data as to the number of pounds of honey and beeswax exported from the United States, and I can, therefore, give you no information. In a good year California might produce 200 cars of honey, Colorado somewhere about 40 cars, and Arizona 20 or 30. New York is another good State, but probably does not produce, all told, to exceed 100 cars. But the honey is not exported from New York, it being consumed largely in the country where it is raised.

There are something like a thousand members of the National Bee-Keepers' Association.

The estimate of the number of pounds of honey produced in the United States is somewhere about as follows: For comb honey, 50 million pounds; for extracted, about 125 million, or a total money value of from eight to ten millions of dollars.

Capt. J. E. Hetherington of New York, and W. L. Coggshall, are the two most extensive bee-keepers in the United States. The former is credited with owing 3,000 colonies, and the latter about 2,500.

BETTER THAN SPRAYING.
Don't lug barrels of water around when spraying. Use the poison direct. Our
Common Sense Dust Sprayer
and Insect Exterminator is a most ingenious device that is rapidly supplanting the old methods. It blows the finely powdered dust into every nook and crevice. Reaches the bottoms as well as the tops of leaves. Destroys insect life on plants, vines, shrubs and trees. Just as effective for vermin on poultry and pigs. More rapid than spraying. Descriptive circulars and testimonials free.
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is the incubator for the poultry raiser, whether farmer or fancier. Anyone can run them, because they run themselves. Anyone can own them, because the price is right. Machine and results guaranteed; you take no risk. Our Common Sense Brooder is the best at any price, and we sell it very low. Handsome catalogue containing hundreds of views and full of honest poultry information, mailed free. When writing address nearest office.
Sure Hatch Incubator Co. Clay Center, Neb. or Columbus, O.
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Shaking Bees from the Combs.

There is a good deal in doing it just right Probably no way is better than that given a number of times by G. M. Doolittle, with whom it is probably original. He gives very minute instructions in the Progressive Bee-Keeper as follows:

With me it is very easy to rid the combs of bees by shaking, especially if each frame is filled with comb as that the same is attached to the bottom-bar the whole length. Where combs are not so attached, there will always be a few bees between the bottom-bar and the comb which will stay there no matter how the frame is shaken, and these will have to be brushed off. Desiring to take a comb away from the bees, I place the projecting ends to the frame on the ends to the middle fingers of each hand and then, with a quick upward stroke, throw the ends of the frame against

the ball, or thick part of the hand at the base of the thumb. As the frame strikes the hand let the hands give a sudden downward motion, which makes the shock still greater. As the frame strikes the fingers it is again thrown back against the hand, and so on until all, or nearly all, the bees are off.

The principle is that the bee is on guard all the while to keep from falling off downward, thus holding on tenaciously so as not to be shaken off by any downward motion. By a sudden stopping of the upward and quick downward motion, the bees are thrown off their guard and dislodged in an upward direction. In this way I have no trouble of shaking every black or hybrid bee off; and if the Italians are disturbed enough to cause them to fill themselves with honey, they can be shaken off the combs about as easily as the black bees. But even if we cannot afford to wait until they are filled with honey, nineteen-twentieths of them can be shaken off, when a bee-brush will easily take off the rest. To any one not used to this way of shaking, it may appear to be a little awkward at first; it will soon become easy, and after once becoming used to this method none will be willing to use any other.

Hand-Picking Drones.

Mr. Doolittle hand-picks his drones. In my opinion it is extremely doubtful that any (other) man will be successful in picking out the drones which are superior. Is there any bee-keeper anywhere who can with any degree of certainty pick out a superior queen from a batch of them, just by her looks? She may be yellow; she may be without fault and blemish as to outward appearance; but who can tell what her workers will be? Is it any different with the drone? "By their work ye shall know them." But in case of the drone, he is gone when you see his work. It seems improbable that we will gain anything by hand-picking. In all probability nature will attend to that part better than man can hope to do. The very best we can do is to select the mother of our drones.—F. GREINER, in the American Bee-Keeper.

Apis Dorsata.

Interest in the introduction of this big bee is not what it was a few years ago, and the present indications are that for utilitarian purposes it will never have any direct interest for American bee-keepers. B. Hamlyn-Harris, the well-informed correspondent of the British Bee Journal, has contributed an article to The Entomologist's Record and Journal of Variation, from which the following is clipped:

About three years ago a special inquiry was set on foot to ascertain whether or not the Giant Bee of India was a suitable subject for domestication. At that time I was permitted to look over various reports at the India office, and all these agree that *Apis dorsata*, mentioned generally under native names, could not be domesticated on account of its intractable character. The chief points noted are:

1. It is said to be exceedingly vicious, often attacking man or beast on the smallest provocation.
2. It preserves the same habits and appearance wherever its habitat.
3. It has never been known to build its nest under shelter, but mostly on isolated lofty trees or overhanging rocks.
4. After the honey season they will desert their nests, and often travel for long periods and great distances, even crossing such mountain chains as the Nilgherris in their course.
5. They build single combs.
6. And are used to approach from north, south, east or west.
7. They rarely remain in one locality for more than three weeks.
8. Emigrating as flowers become scarcer.

It is well known that one of the greatest obstacles to the domestication of this bee is its natural wildness and its inability to settle permanently in one spot. When we consider that *Apis dorsata* usually makes its nest in

Alfalfa Honey--7 cents a pound in lots of 4 cans or more.

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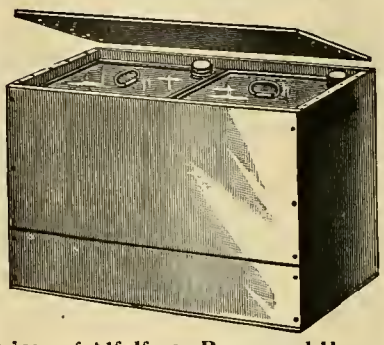
This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



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Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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wild and rocky country, only remaining in one locality so long as flowers abound, we shall better realize why it moves from place to place, and the importance of so doing to its general welfare. Therefore, we see that only in completely altering its natural habits could we hope to domesticate this bee, or bring it into use under other circumstances to those in which it has always lived. Also, on account of its size and the power of its flight the Giant Bee will travel as much as 100 miles before again settling down to home life.

It is not so much the honey gathered by these bees which is valuable to the natives, but the large quantities of comb they produce, which is melted down into wax, which forms a valuable article of industry in India. The hillmen do not trouble much about the honey, but are said to eat the young bees and larvæ with great gusto. Another hindrance to domestication is the way they build their nests, quite in the open, entirely unprotected, and always single combs from about 5 ft. to 6 ft. in length and about 2 ft. to 3 ft. in depth. Some fine specimens of these combs are to be seen in the South Kensington Natural History Museum.

When a species of insect has been used to certain habits for generation after generation—in fact, has never known any others—it will be readily understood how difficult would be the problem presented to us did we attempt to keep such a refractory creature in confinement. The only attempt made seems to have been a failure. A queen-bee was tied by a thread to a stick and placed in the hollow of a tree, and after two or three months a very small piece of comb was found, and the experiment, proving useless, was abandoned. Since this a writer to the last Goverment reports says that "he had seen seven hives all well and fed for the winter," but in the spring the "little brutes" decamped by twenty or thirty a day, until each queen in turn left the hive in disgust. Clipping the queen's wings, as done in modern bee-keeping, would prove fatal to *Apis dorsata*. On account of her uncontrollable character she would probably be lost.

The question arises, if we cannot domesticate *Apis dorsata* itself, could we by judicious crossing attain the desired end? The best answer to this question will, I think, be found in the fact that European bees exist which are closely allied to a species found in Northern India, which never crossed with *Apis Indica*, very similar to our European bee, with which domestication might be a success, but if any real advantage would arise therefrom or not is doubtful, and no doubt can remain that the facts relating to *Apis dorsata* must forever bar the way to domestication.

Germ that is Killing the Market for Extracted Honey.

W. W. McNeal, in the American Bee-Keeper, says it is not one outside of bee-keepers themselves. He strikes pretty close to the truth when he says:

Now, bad as glucose may be, the germ that is sapping the life of trade in honey finds its abiding place in unscrupulous methods of production! To people of taste and refinement the quality and general appearance of extracted honey in so many instances reflects on the producer such slovenly habits as to be in reality reprehensible.

The man who produces thin, unripe, unstrained or dirty honey, and palms it off on another is just as deserving of censure as one who puts in glucose and calls it honey. The effects are the same in both cases, for both rob honey of its rightful constituents.

Apiculture in Chile, S. A.

I am situated near 38 degrees, while the whole territory extends from 18 deg. 40 min. to 55 deg. 59 min. In the extreme north rain never falls, and consequently no place for bee-keeper nor bees; whereas, in the region south of this—about latitude 40 deg.—rain is constant all the year round, not the most desirable location for the bee-keeper, either.

It may interest some readers to know that the mean rainfall varies from 12 millimetres

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When you come to the RUMELY, Stop!! That is the place to make your stand if you are interested in threshing. Why do we exult over the name? We know, and you know, it stands for a success. We cover the ground when it comes to threshing.

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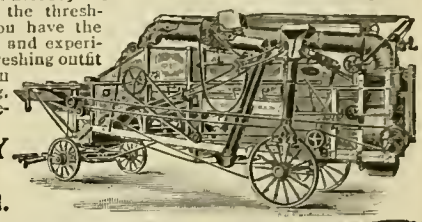
with the various modern attachments, leaves nothing to be desired. Its specialties are: 1. Fast threshing. 2. Clean threshing. 3. Clean in saving. 4. Turning grain out in proper form. 5. Adaptability to all kinds of grain and seeds. 6. Simplicity of construction. 7. Durability. **The Rumely Rear-Geared Traction Engine,** with the above, satisfies the thresher's wants. In these you have the best product of our skill and experience; the one perfect threshing outfit upon the market. You should have our catalog. We send it upon request.



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The man who has succeeded in solving this problem is H. W. Campbell. He is not a theorist, but has put his plan into practical operation. Last year he raised forty bushels of corn to the acre on his farm in Western Kansas, when his neighbors had a complete crop failure. Mr. Campbell is a regular contributor to

THE TWENTIETH CENTURY FARMER

This year it will publish articles by him which no farmer can afford to miss. Farmers who have been following his plan have been raising big crops every year in spite of drouth. Mr. Campbell has just published a manual of soil culture which fully explains his methods. This readable volume, together with six month's trial subscription to **The Twentieth Century Farmer** will be sent on receipt of fifty cents.

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FOR 23 YEARS THE BEST ON EARTH.

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but ship anywhere for examination guaranteeing safe delivery. You are out nothing if not satisfied. We make 125 styles of vehicles and 65 styles of harness. Our prices represent the cost of material and making, plus one profit. Our large free catalogue shows complete line. Send for it.

No. 900 Carriage. Price, $120.00. As fine as sells for $50.00 more.

No. 243 buggy has rubber covered steps and ⅝ inch Kelly rubber tires. Price, $73.00. As fine as sells from $40.00 to $50.00 more.

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Every day during March and April we shall sell

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Our fast train service from Chicago to St. Paul, Billings, Mont., and Denver, and our system of Reclining Chair Cars (seats free) and Tourist Sleeping Cars—only $6 for a double berth Chicago to Pacific Coast—in addition to the regular Pullman cars, makes the Burlington Route the most comfortable and convenient way to the Northwest. Ask you nearest ticket agent about it or write me for a folder giving particulars.

P. S. EUSTIS, Gen'l Pass'r Agent C. B. & Q. Ry. Chicago.

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The Prairie State Incubator

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PRAIRIE STATE INCUBATOR CO., HOMER CITY, PA.

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in latitude 27 deg. to 2,860 millimetres in latitude 40 deg.; further south, to latitude 53 deg. 10 min. (Punta Arenas) the rainfall decreases 550, of which one-fifth is snow. My own experiences extend to regions from latitude 33 deg. to 39 deg., and I flatter myself in thinking my own situation about the happy medium as to extremes of temperature, moisture, etc. After twelve years' experience here I am prepared to say that the swarming fever referred to in the "Revue" is by this time so much eliminated with me, that I can work under quite as high pressure as at home. When I first commenced the bees would swarm in spite of extractor or unlimited working room, and, of course, to work for sections was out of the question. Now I get 2-lb. sections worked with greater certainty than the 1-lb. are at home. Of course, I use the "B.B.K.A." standard frame. All the bees I meet with in apiaries here are the Italian race.

With me, swarming begins about the latter part of November. Honey begins to come in as surplus in December, the heaviest months being January and February.

The statement that the produce of 500 colonies amounted to 36,400 pound of honey goes to confirm what I have been trying to drive into the heads of some of the bee-keepers here—to-wit, the mistake made in laying down apiaries of over 100 colonies; the vogue here is 500 or 1,000 and upwards. Notice what follows in the article referred to, "ninety-five colonies gathered 18,000 pounds." I have taken 250 pounds to 300 pounds in my own apiary from one hive when no swarm has issued, and over 150 pounds from a swarm hived in December. The statement that the native Chilian does not eat honey is not my experience.—J. R. W. HOLE, in the British Bee Journal.

Young Larvæ for Queen-Cells.

In Gleanings for July 1, 1900, in a footnote on an article of mine, you say, Mr. Editor, "We have heretofore assumed that larvæ just hatched, or larvæ not more than three days old, was the preferred age; but there is a case where the bees evidently had a preference for the five-day limit." The fact that this continues to be quoted in foreign journals, and that it is likely to be misunderstood, makes me now refer to it. While you may have meant all right, there is danger that you may be understood as meaning: "In this case the bees preferred larvæ five days old to anything younger." This is not true. The only possible *preference* at all in that line would be expressed thus: "The bees preferred to wait till some of the larvæ were to old for good queens, rather than to start all cells earlier." Now let me give the truth deduced from my investigations—*the truth that I think any one will deduce from any fair investigations*—it is this: Bees will not start queen-cells with larvæ as old as three days *when younger larvæ are present*; but they will continue to start queen-cells after all the larvæ present have become too old for that purpose. Will my good friend of the Review say whether he believes this to be the truth?—[I accept your amended correction.—ED.]—Stray Straw in Gleanings in Bee-Culture.

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IS KING!
Send your name and address on a Postal Card and I will send you sample of
BUCKBEE'S
Great Money-Making Corn,
together with our Beautiful and instructive Seed and Plant Book. Tells all about the best varieties of Corn and everything of interest in seeds; how to grow them for profit, etc.
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A New Bee-Keeper's Song—

"Buckwheat Cakes and Honey"

Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

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M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

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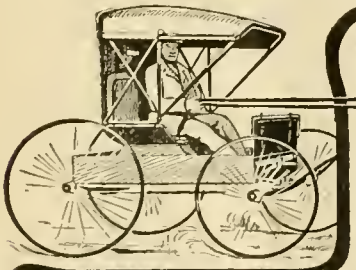

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Hitch it up; take it home and test it. Compare it with the buggies your neighbors have paid considerable more for, and if not satisfied you have the best bargain of your life at the end of 30 days you can send it back to us without paying one cent. We manufacture our own goods. We know how and of what material they are made, and we know they will stand the test. Our large new catalogue describes and gives prices of our mammoth line of buggies, surreys, carriages and harness. It is free. Send for it at once.

Ohio Carriage Mfg. Co., Station 6 Cincinnati, O.

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GENERAL ITEMS

A Beginner's Report.

I am a young bee-keeper and appreciate the American Bee Journal very much.

There is only one bee-keeper in this neighborhood besides myself. I started with one colony, which swarmed 4 times, and now I have 5. I did not get any surplus honey but I think my bees are wintering well.

As I did not know much about bees I thought I would give them a good letting alone. JOHN A. DUNN.

Reno Co., Kans., Feb. 20.

Early Spring.

Spring is opening up very early here for this country, and the bees, as a rule, except perhaps Salt Lake County, have wintered fairly well, and a fair, average season is looked for by our bee-keepers. While there is no drawback in sight, the only fear is drouth or grasshoppers. E. S. LOVESY.

Salt Lake Co., Utah, Feb. 21.

Nailing Up Shipping-Cases.

Mr. C. Davenport says he can now put 2 non-drip shipping-cases together in less time than he could one before. Now my way to put slats in the bottom, nail on the 2 ends, then I take a board that just goes inside of a case, 3 inches wide, cut slots in it the space of the sections, then slip the strips into these slots and nail each end, then take out the board and nail the center, and then nail up the case. S. D. BUELL.

Branch Co., Mich., Feb. 20.

Bee-Keeping in Oklahoma.

We had a very poor season in northwestern Texas the past season, although my loss is only 10 percent, while that of others has been 50 percent.

I am now moving my apiary near the Wichita Mountains, in Oklahoma Territory, I being one of the lucky ones to draw a fine place through the opening up of the Comanche Reservation. I think I have a fine location for bees, and, as before, will give my attention to bees and fruit-raising.

I am the first man to establish an apiary in the New Eldorado; it will be watched with interest by other bee-keepers who want to bring bees to Oklahoma Territory.

J. W. ADAMS.

Montague Co., Tex., Feb. 20.

Heavy Winter Losses.

After a month of very severe wintry weather I find I have suffered the greatest winter-losses in my experience. I have lost at least 60 colonies, or ⅗ of my bees, and most of the rest very weak, and if the weather does not moderate I fear the loss will be much greater.

My loss was caused by being confined so long without a flight on stores containing honey-dew.

The prospects for 1902 are gloomy. It has been nearly a year since we have had a good rain.

We have not had any honey since 1899; we had some honey-dew in 1900, also a little last year.

I will continue reading the "Old Reliable," anyway. I have been a cash reader since I have been a bee-keeper, nearly 7 years now. I commenced with 2 box-hive colonies, and increased to 202 colonies in 5 years, all in Langstroth dovetailed hives. I have decreased considerable in the last two bad years.

I am the only member of the National Bee-Keepers' Association in the Indian Territory, I am sorry to say.

I let merchants handle honey on commis-

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

It Means Something

to the world that there is one old family remedy that is believed in by endless thousands of humanity after 40 years' trial.

WATKINS' Vegetable Anodyne LINIMENT

J. R. Watkins

It means that here is a remedy that makes you feel certain of the lives of your dear ones in cases of accident or sudden sickness. It means many dollars saved to you on that would otherwise go to the doctor or veterinary. In all cases of cholera morbus, diarrhoea, flux, rheumatism, cuts, cramps, strains, burns, mumps, sore throat, diphtheria, etc., it is a God send.

Worth Its Weight in Gold.

Red Lake, Minn., June 5, 1901.

One time last summer I got very sick with cholera and thought sure we would have to send for the doctor, but after taking 3 doses of Watkins' Vegetable Anodyne Liniment I felt as well as ever. Since then I use it every day and and find it the best family medicine in the market to-day; it is worth its weight in gold. JOSEPH DUCHARME.

Thousands of good people have written in the same vein.

FOR ANIMALS it cures colic, diarrhoea, sprains, cuts, scratches, bruises, sweeney, etc.

Don't wait until you are down sick, or injured by some bad accident, but be sure to get a bottle from our agent when he calls. If no agent in your county, write us at once and we will see that you are supplied. Price $1.

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We send our instructive 100-page finely illustrated Home Doctor and Cook Book to every inquirer free. It is a very valuable and interesting work for farm and home, containing weather forecasts, fine cooking receipes, etc. We send it free whether you are ready to buy now or not.

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Ask for our price-list and testimonials.

As we are spending the winter in North Dakota, all our correspondence, whether social or business (until further notice) should be addressed,

D. J. BLOCHER, Denbeigh, N. Dak.

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Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

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sion for me and two of them refused to settle. I reported them to Hon. Eugene Secor, and the money came forthwith, so I saved enough there to pay my membership several years. "A word to the wise is sufficient."

Let every one that reads this not only pay up his subscription (if in arrears), and a full year in advance, but inclose $1.00 membership fee to the "National," and make Editor York and yourself happy. J. T. HAIRSTON.
Indian Territory, Feb. 20.

Deep Snows—Wintering Well.

We have had the deepest fall of snow for several years, about 8 inches on the level. It did not drift very badly here, but delayed trains about a day.

Bees went into winter quarters in the best condition since I have been in the bee-business (1896).

They have not had many flights, but I think they are all right. W. H. MEANS.
Greenwood Co., Kan., Feb. 21.

Evidently an Error.

Mr. Editor:—Did the printer take liberties with Mr. Bingham's copy, page 156, or are we to understand that 25 degrees is an "ideal" temperature for bees in a cellar? IDEALIST.

[Yes, it is an error. It should have been 35 degrees instead of 25.—EDITOR.]

Entrance Feeding of Bees.

It is near feeding-time for the colonies out of stores and for stimulative brood-rearing. I have been feeding some old sorghum honey I bought cheap. I make an entrance-feeder on the plan of the Boardman. I take a round tin can 8 inches across, run a gauge-mark around it about 1¾ or 2 inches from the bottom, and cut it off. This makes a dish nearly 2 inches deep and 8 inches across; almost any old dish will do. Then make a box with two points to run into the entrance with a loose cover; the box must be tight, and great care taken not to let robber-bees get a taste. Liquefy the feed by mixing water with it. The dish must be full of old comb to keep the bees from drowning.

C. H. AUSTIN.
Eddy Co., New Mex., Feb. 21.

Poor Prospects for Honey.

It is now the time of year when a tolerably safe report can generally be made concerning honey prospects in this part of the State.

We have had, to date, a trifle over 4 inches of rain, and the most of it came early, and was succeeded by dry weather lasting until the latter part of January. We have had more cold weather than common this winter; little damage, however, has resulted, but it aided very much in retarding early bee-feed.

I have been to my apiary several times lately, and in traveling a section of country 30 miles in length, and observing closely on every hand, I must say that I have never seen the prospects for the apiarist much poorer than at the present. Unless rain comes soon in plenteous quantity, we will have to feed back to the bees some of last year's crop. Eastern markets, I think, will get but little California honey in 1902.

ALBERT ROZELL.
Los Angeles Co., Calif., Feb. 21.

Do Robber-Bees Sting?

Answering the question (page 115), "Do robber-bees sting?" Rarely; though very rarely indeed they do. The robbing question has always been very interesting to me. I have watched and studied it for days and weeks with pain, pleasure and profit.

The conditions in which a robber-bee is most likely to sting is when a defending bee grabs the robber by the leg and then hangs on, and hangs on, until the robber drags it clear down the alighting-board into the grass. The robber then seems to say, "Come, now, old fellow, you are as mean as I am; we are now on common ground; let go or I'll sting;" and in

In Olden Days
men were broken on the wheel, now they buy
Electric Steel Wheels,
and save money. They fit any wagon. Made with either staggered or straight spokes. Let us tell you how to make a low down wagon with any size wheel, any width tire. Catalog tells. It's free.
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This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address.

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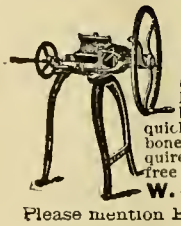

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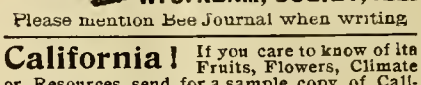

W. C. T. U.
We can't tell U how hard we are trying to restrain the rising generation of stock. Do you see?
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
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The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
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WOOL MARKETS AND SHEEP, CHICAGO, ILL.
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short order it grapples the other bee and stings. But generally when the robber makes a sharp turn both take wing.

I have seen a bee in cases of robbing sting, dead or dying, and still clinging to a robber's leg. Robbers always respect the colony that makes short, decisive work of it, and summarily stings every robber that they can catch. In such cases I never could see that robbers sting back, but of course I can not say that they never do. S. T. PETTIT.

Ontario, Canada, Feb. 21.

Fears Another Dry Year—Foul Brood.

I am afraid we are in for another dry year. Everything is shaping that way now. We have had only about 3 inches of rain so far this winter. It has looked very much like rain for two days, but the rain does not come.

I am having a sad experience with foul brood, not in my own apiary, but as deputy foul-brood inspector. The first apiary I examined of 25 colonies was a rotten mass—old hives in which bees had died out lying around in a promiscuous way. I said to the man in charge (the owner being in the East), "The only thing we can do is to burn everything." He finally gave his consent, so just at dark we piled the 25 colonies as close together as possible, piled the 50 or more old hives around them, and set fire to it. Radical cure, but a safe and permanent one.

Other apiaries which are not so bad we will give the McEvoy treatment.

B. S. TAYLOR.

Riverside Co., Calif., Feb. 23.

Worst Dry Year Since 1864.

This will be the worst dry year since 1864 in Southern California. Even in the northern part the rainfall is short. I would not advise any bee-men to come here and go into the bee-business; the seasons are too uncertain, and they would only meet with discouragements. M. H. MENDLESON.

Ventura Co., Calif., Feb. 18.

CONVENTION NOTICES.

Chicago.—The next meeting of the Chicago Bee-Keepers' Association will be held in the Briggs House, Chicago, April 3, 1902, afternoon and evening. A full attendance is desired, as important business comes before the Association. Let all come and enjoy a good social time, and banquet in the evening; 50 cents a plate. The ladies are especially invited to be present, and bring their fathers, husbands and brothers. Dr. C. C. Miller has promised to be present. HERMAN F. MOORE, Sec.

Utah.—The Utah State Bee-Keepers' Association will hold its annual convention in the City and County Building, Salt Lake City, April 5, 1902, at 10 a.m. This promises to be an interesting convention. All are invited. It is desired to form an exchange for the protection and benefit of our bee-keepers. Come and aid a good cause. It is expected that every county will be represented. J. B. FAGG, Sec.

E. S. LOVESY, Pres.

Deserves Its Success:—It is always a pleasure to us to notice the growth of any concern which builds up its business by honorable methods and first-class goods. In this day it is hardly possible for any concern to succeed for any length of time unless the above is their policy. When any concern starts as did our advertiser, the Reliable Incubator Co., of Quincy, Ill., almost 20 years ago, in a modest way, and their business grows constantly from year to year until it becomes one of the very largest concerns in the country manufacturing incubators and brooders exclusively, one cannot but believe that they make the right kind of goods and treat their customers in accordance with the Golden Rule. Probably no incubator in the world has a higher reputation than the Reliable. It has taken many highest awards at various Expositions, as for example, the Columbian at Chicago, Cotton States at Atlanta, Trans-Mississippi at Omaha, International at Brussels, Universal at Paris, where they not only took highest award but the grand prize. They have the first premiums at State Fairs and Poultry Shows almost without number, and the Reliable is always a favorite wherever exhibited. The Company is already planning great things for the Louisiana Purchase Exposition to be held in St. Louis in 1903.

One reason why the Reliable has always been a successful machine is that its makers are practical poultry people, having owned and operated extensive poultry-yards for many years, even before engaging in the incubator business. Every improvement which has been put out on the Reliable has first been tested many times in the Company's own establishment. The present poultry-yards are an immense plant covering 13,590 square feet of floor space. They raise about 5,000 chickens annually and every bird shipped from the Reliable Poultry Farm is guaranteed in every way. Send for the Reliable catalog. Address, Reliable Incubator Co., Quincy, Ill., and mention the American Bee Journal.

BEES FOR SALE!

50 good, heavy colonies in 8-frame, dovetailed hives, well painted; most of the bees show Italian markings. Prices: Single colony, $6.00; 5 or more, $5.50 each. They are located within 12 miles of Kankakee, Ill. Can be shipped April 1. Address,

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IMMEDIATELY to take charge of 200 colonies and horse. Salary, $15 a month with board and lodging. Apply, W. R. ANSELL,
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Cash for REAL ESTATE no matter where it is. Send description and cash price and get my wonderfully successful plan. **W. M. OSTRANDER,** North American Bldg., Philadelphia, Pa.

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Northrup, King & Co.—We have just received from these advertisers a copy of their new seed catalog for the current year. This is a very interesting book, and every one, even those who buy seeds in a small way, would be well repaid by writing for a copy. Some of the many interesting features are as follows: On page 1 the letter from a leading railroad, offering half-freight-rates on certain seeds. This will be a direct benefit to buyers in certain sections. The statement regarding Corn Insurance, on page 15, is also novel, and their illustrations of corn, made from actual photographs, speak for themselves. On page 15, the Grading of Grass Seeds, illustrated by microscopic pictures, is a revelation. Many seed-buyers evidently need education along this line. Very many of the illustrations all through the book are made from photographs, and the general arrangement of the book is commendable. Mr. Northrup is recognized as a high authority in the seed-trade, and is president of the American Seed-Trade Association. Write to Northrup, King & Co., Minneapolis, Minn., for one of the catalogs, and mention this paper.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 7.—The decline noted in last quotations are still more pronounced at this time, large offerings of Western comb are pressing for consumption which are difficult to place. Prices are nominally 13@14c for the best white, with travel-stained and light amber, 10@12c, that which is candied selling as low as 7c, with the partially candied at 9@10c. No great amount of dark honey is offered. Extracted is steady in price but slow of sale, white, 5½@7c; amber, 5¼@5½c; dark, 5c. according to what it is gathered from and quality. Beeswax in urgent demand at 30c. R. A. BURNETT & CO.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH CO.

ALBANY, N. Y., Feb. 21.—Our market has not been so empty of comb honey in a long time. Fancy white comb, 15@16c; No. 1, 15c; dark and buckwheat, 13@14c. Extracted, buckwheat, 6c. Beeswax, 30c. H. R. WRIGHT.

BOSTON, March 8.—We beg to report a fairly good spring demand for comb honey, and from present indications stocks will clean up in good shape. Prices range as follows: Fancy, 16c; No. 1, 13@13¼c; No 2, none. Extracted is in good supply and moves slowly; California, 7½c.
BLAKE, SCOTT & LEE.

CINCINNATI, March 7.—The general tone of the honey market is lower. Water-white comb honey sells from 14@14½c; it is hard to obtain 15c for extra fancy. Extracted has weakened a little, and sells at 5@5½c; fancy, from 6@6½c.
C. H. W. WEBER.

NEW YORK, March 8.—Comb honey is now pretty well cleaned up, and what remains on the market is nearly all fancy and No. 1 white honey. The demand is fairly good at following quotations: Fancy white, 14c; No. 1, 13c; No. 2, 12c. Extracted remains dull at unchanged prices with plenty of supply. Beeswax firm, 29c.

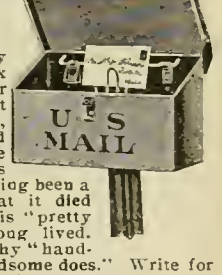
We have just received the first large shipment of comb honey from Cuba; some in tall sections, packed 20 combs to the crate and some in square sections packed 32 combs to the crate, glass front on one side, plain, no-bee-way section. The honey was packed in shipping-carriers, containing 8 of the large and 9 of the small crates respectively, and arrived in first-class condition. The flavor of this honey is very fine, and as to the quality—some of it is fancy white, while others is of a yellowish tint.
HILDRETH & SEGELKEN.

SAN FRANCISCO, Feb. 12.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Considering the limited quantities offering there is a fair trade in progress, both for shipment and local account. Quotable values are without change, but market is moderately firm at the prevailing figures

WANTED. EXTRACTED HONEY—either large or small lots; parties having same to offer, send samples, and best prices delivered at Cincinnati, Ohio. We pay cash on delivery. THE FRED W. MUTH CO.,
10Atf Front and Walnut Sts., CINCINNATI, O.

In a Glass Case.



The light fancy rural mail box would last for a long time, but rain and shine, with frost and snow soon tell the story, and then its only claim to having been a good box, is that it died young. Our box is "pretty tough," hence long lived. As for beauty, why "handsome is what handsome does." Write for the why and wherefore.

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River Forest, Oak Park Post-Office,
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The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.

If you try them once you will likely use no other kind of top or sealing arrangement for honey jars.

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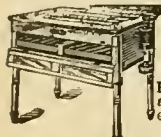

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You should have the best wax-extractors, else large quantities of wax will be left in the refuse. See what one extensive and practical bee-keeper says of the **ROOT-GERMAN STEAM WAX-PRESS:**

For over 20 years past I have had to render up old combs or cappings in larger or smaller quantities, and my experience has been extensive, for I have tried faithfully almost every known method to get all the wax out, but have never succeeded to my satisfaction until recently. I got of you a German wax-press, that comes nearer accomplishing that object than any thing I have ever tried. I am more than satisfied with it, for, if used according to directions, there is little if any wax left in the refuse. Any one used to the old methods will be astonished at the results obtained. In this press you have given those in need of it the best thing, to my mind, you have ever brought out, and I really believe all who try it will pronounce it a real treasure. There are other points of advantage that I could mention, one of which is its perfect safety—no boiling over and setting fire to every thing, and it can be left alone without care for quite a time, and every thing can be kept neat and clean, and it occupies very little room. E. T. FLANAGAN.
Belleville, Ill., Dec. 12.

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WANTED.—Beeswax. Price, 28c cash or 30c in trade for pure average beeswax, delivered here. We want also a car of white sage extracted honey, also large lots of WHITE COMB HONEY in DANZ. sections.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MARCH 27, 1902.

FORTY-SECOND YEAR
No. 13

From Michigan Agricultural College.

THE LATE REV. O. CLUTE.

THE AMERICAN BEE JOURNAL.

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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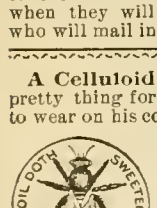

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

"ANNEETI—THE GYPSY ARTIST" is the title of a delightful book written by Rev. W. S. Sly, of Lansing, Mich. We have read it, and know that it is exceedingly interesting. Briefly, the story may be outlined thus:

A little orphan girl was kidnapped by a band of gypsies from an asylum near Cincinnati, reared as a gypsy, and some years later was rescued near Chicago by a friend of the author. Through her talent and love for art she was trained into a splendid womanhood and an artist of ability.

Around these *facts* a web of fiction and other facts has been woven to illustrate the sadness of orphanhood and separation from loved ones.

Price, $1.00, postpaid. It may be ordered from the author, as above.

A CLEAN AND SWEET CROWD.—Mr. G. A. Deadman—one of Canada's good bee-keepers—wrote as follows to the Canadian Bee Journal concerning the last convention of the Ontario Bee-Keepers' Association:

"I regret very much not being present at the Woodstock convention. Glad to hear that it was such a success, and that 'one of the boys who was there' reports that there was a notable absence of tobacco-spitting, etc., so common at large gatherings. I have had the impression for some time that bee-keepers, as a rule, are not tobacco-users nor good customers at 'the bar,' and am pleased to have this belief confirmed."

Recently there was held in Chicago a convention of the school superintendents' department of the National Educational Association, and we verily believe that there were more smokers present among the superintendents than there would be among an equal number of bee-keepers at a National convention. And to think that those superintendents stand before the rising generation five days in a week as models! But there is cause for thanksgiving that the tobacco-using school superintendent is the exception rather than the rule.

But one would be justified in thinking that a teacher or professor, who, in these days of required instruction on the injurious effects of nicotine on man's delicate physical organism, would know better than willingly to inflict injury on himself, to say nothing of imposing an offensive odor upon those around him who detest tobacco, whether smoked or "chawed."

Think of being a slave to such a habit! But when the tobacco-heart comes—well, the tobacco or the man has to go.

Brimstoning Bees seems to be still considerably in vogue in Ireland, according to Dr. Smith, in the Irish Bee Journal. He says:

As to the brimstone robber, he should be induced, in some way, to stop his cruel work, but I fear it is not likely to take place very soon. An old veteran near me declares that there was far more honey in the country before the new honey-robbing hives were invented, and he, for one, is ready to join in a crusade to burn them all up, as he had to do with his own. For, unless it is done, he says there will soon not be enough honey in the country to cure a sick man's sore throat. He is in earnest, and believes every word of it.

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See honey-offers on page 186.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., MARCH 27, 1902. No. 13.

Editorial.

"Bee-Culture, Bulletin No.77, of the Department of Agriculture of the Commonwealth of Pennsylvania," is the heading of a handsome 100-page pamphlet written by Dr. C. C. Miller, bearing the date, 1901. As he plainly said in his letter of transmittal, "No attempt has been made to write a complete treatise on bee-culture." It is beautifully illustrated. It is simply a handy booklet containing those things in relation to the honey-bee and its care that any well-informed person would like to know. And the beauty of it is that it is all clear and correct in its every statement. Dr. Miller was employed by the Pennsylvania Department of Agriculture to write the booklet, so it is for distribution in that State alone.

We take quite a little pride in the fact that Dr. Miller was called upon to prepare the pamphlet referred to. To be thus selected was an honor to be coveted, and he acquitted himself magnificently—as is his usual custom.

Quoting the Honey Market.—We have received the following communication from a bee-keeper residing near Chicago:

I have been interested in the honey market of Chicago, as I have been a Chicago bee-keeper for two summers past, and the article on page 121, by B. A. Hadsell, is timely and largely to the point, as tending to explain the low price of honey to-day as compared with the prices of 20 years ago. The commission man has the honey-producers in his grip in this market, more especially when he is a buyer as well as a commission man. A buyer is always a "bear" in the market, and when he also gives quotations of prices for the supposed guidance of honey-producers, it is beyond human nature, however honest he may be in general, not to try to buy low, when it is almost absolutely certain that his quotations will go to nearly all possible shippers.

I am certain there is this tendency here in Chicago, for I have time and time again investigated prices on South Water street, inquiring of dealers in honey, as a possible buyer, and invariably had prices quoted me one cent higher per pound on comb honey than the regular "quotations" in the American Bee Journal.

Again, the prices quoted for Milwaukee, Wis., are almost invariably one cent per pound higher for comb honey of like grades than for Chicago. There seems no good reason why Milwaukee, located very much nearer the great basswood forests of the great honey-producing State of Wisconsin, should pay more than Chicago for the same grade of honey, unless the market reports are "fixed" to suit some one who is interested in buying honey low.

The bee-keepers of Cook County, Ill., at least ought to have an organization and investigate just such things, and let the shippers of honey know it, as I am trying to do.

Cook Co., Ill. RIP VAN WINKLE.

Rip Van Winkle should go into the honey-dealing business a while, for by so doing he would soon learn some things that he will scarcely be able to see in any other way. Suppose the commission man did publish quotations a cent or two per pound higher (at the price he gets for a few single cases), how soon would it be before he would have his store flooded with honey which would be sent to him because of his high quotations? Then, of course, the market would drop, and the honey would have to be sold several cents below the quoted prices. How the shippers would howl then, when receiving their returns. That commission man would be called a fraud, a swindler, etc.

It is better to quote a cent lower rather than a cent above the market. If comb honey is quoted at 15 cents, and then sells at 16 cents, and a report is made at the latter price, no bee-keeper is going to kick. But quote the price at 16 cents, and then make returns at 15 cents (the best that could be obtained), and how high would the shipper kick? Well, he'd likely say, "That commission man quoted high so as to get the honey into his hands, then sold it so as to get his commission."

Any "Rip VanWinkle" who goes along the street enquiring the price of honey is easily "sized up" by the commission man, who is up to his business. He (the commission man) can tell very quickly that "Rip" is only "nosing around," and doesn't mean to buy, in nine cases out of ten. We have often been such a "Rip" ourselves, and we felt the commission men of whom we enquired knew that we were simply out "enquiring."

But we would like to have those who quote the honey market in our columns also help answer Rip Van Winkle. If all of us try, we think he ought to get what he is after—or something else equally satisfactory.

A Sun-Proof and Rain-Proof Cover was described in the Bee-Keepers' Review by M. A. Gill, of Colorado; a heavy coat of oxide of zinc and lead paint having bedded upon it thin, unbleached muslin while the paint is still wet, another heavy coat of the same paint immediately laid on the muslin, and after drying a third coat. Referring to this, the editor of Gleanings in Bee-Culture says:

I asked Mr. Calvert to figure on the cost of Neponset paper and unbleached muslin for hive-covers. After figuring a little he surprised me by saying the muslin cost only about half as much. My impression is that I should prefer it, even if it were twice as expensive as paper, because, treated as Mr. Gill recommends, it would certainly be very durable. If the paint be first applied to the cover, and then cloth be laid upon it while the paint is green, it forms a bond of union with the wood. Now, then, if he covers it with another coat on the outside, it is rendered impervious to water, and still and hard. I suggest that the readers test paper and muslin side by side. Let us see which will stand the most "grief" in different localities.

A New General Manager.—As we anticipated when Mr. Secor sent out his annual report as General Manager of the National Bee-Keepers' Association, he almost immediately resigned after re-election. His successor has just been elected by the Board of Managers. The new General Manager is Emerson T. Abbott, of St. Joseph, Mo., to whom dues and other matters relating to the Association may now be sent.

Mr. Abbott has a good opportunity to show his ability as a manager of the important interests of bee-keepers. He should succeed in the work. The American Bee Journal is ready to co-operate with him in continuing to make things hum—the things for which the Association exists.

Errors About Laying Workers, like other errors, seem hard to kill. It was formerly held by many, if not by all, that a single worker was engaged in the unprofitable task of laying eggs. Actual dissection has shown that in a bad case of laying workers a large proportion of the population contain eggs. Yet there are still instructions given occasionally to shake the bees on the ground at some distance from the hive, so that *the* laying worker may not find its way back to the hive. With regard to another error, Arthur C. Miller says in the American Bee-Keeper:

Let any bee-keeper who wishes to satisfy himself that laying workers arise from mature, normal workers, and not from larvæ having a bit of "royal food," try the following experiment:

Move to a new stand any fair colony having a young queen which has been with them for at least two months. Provide for the old bees returning to the old location as may be most convenient; they concern the experiment only in that they are not wanted in the moved colony. In ten days or more take the queen and all the brood and eggs away from the moved colony, leaving only the bees, to which give combs of honey and pollen. To be absolutely sure no eggs are given these, combs should have been away from the bees for several days—weeks would be better. Now watch for results. Ordinarily in four or five days a few eggs will appear, and the number will increase daily until the colony begins to decline. The reason for selecting a colony having a young queen, and for getting rid of the old bees, is to be certain that all bees subjected to the experiment are reared under such conditions that there can be no likelihood of any of them receiving "royal food" while in the larval stage.

Convention Proceedings.

Report of the Wisconsin Bee-Keepers' Convention.

BY ADA L. PICKARD, SEC.

The 18th annual convention of the Wisconsin State Bee-Keepers' Association was held in the State Capitol at Madison, Feb. 5 and 6, 1902.

The convention was called to order by Pres. N. E. France, a man of sterling worth, nobility of character, and great experience in all branches of apiculture.

Copies of the song, "Buckwheat Cakes and Honey," presented to the convention by our congenial friend, Editor York, were distributed to each person present, and all joined in singing the jolly song under the leadership of Mr. York.

PRESIDENT'S ANNUAL ADDRESS.

Our genial vice-president, Mr. Huffman, took the chair while Pres. France delivered his annual address. He spoke of the last honey crop of Wisconsin as not being an average crop. The outlook for the southern part of the State last year was good, but the drouth cut the crop short. He also mentioned the fact that the reason why many did not obtain good prices for their honey was because they did not put their honey up in salable packages.

He recommended that the National Association adopt and furnish to each member of the Association, a badge that will be suitable for a State Bee-Keepers' Association, as well as the National Association, as we are a part of that Association.

Mr. France also spoke of the advisability of holding our conventions in different parts of the State, on years except Legislative years. He said we could not afford to meet elsewhere than in Madison on those years, as there were frequently bills introduced into the Legislature very detrimental to the bee-keeper, as there was in 1901, and only through the ardent work of the committee of bee-keepers going before the Legislative Committee was the bill defeated.

BEE-CELLAR IN THE SOLID ROCK.

Mr. C. H. Pierce, of Columbia County, said, in beginning his paper: "Being a beginner in the bee-business, as well as being somewhat timid in coming before a gathering of mostly veteran bee-keepers, I was on the point of declining to write a paper, but thinking I had something in the way of a winter repository for bees which perhaps none of you have ever tried, I answered the secretary that I might give a description of my bee-cellar blasted from solid rock."

As most of the Wisconsin bee-keepers are not so favorably blessed as Mr. Pierce, to live in a community as noted as the Wisconsin Dells, and have access to those old sandstone bluffs, it was very interesting to all to listen to his description of his bee-cellar. If Mr. Pierce is a beginner in the bee-business he is a wide-awake, practical man, and is willing to break the bread of his experience to others, and at the same time sit and drink at the fountain of others' experience.

An interesting discussion followed this paper, and the question was asked, "Does noise disturb bees while in winter quarters?" Mr. Kluck said he winters his bees in the house-cellar, and that the boys and girls made as much noise in their play as they pleased, and it did not disturb the bees.

Mr. Lathrop's bee-cellar is near a railroad track, where the passing of the trains jars the ground terribly, and it did not seem to disturb the bees. The general concensus of opinion of the convention was that noise did not disturb bees while in winter quarters.

A CENTRAL HONEY-PRODUCERS' EXCHANGE.

It has been the good fortune of the Wisconsin Bee-Keepers' Association, for the past three or four years, to have Mr. York meet with us. He gave an address on "The Need of a Central Honey-Producers' Exchange." He advised that in some inland city (preferably Chicago) there be organized and conducted a stupendous honey-producers' exchange. The central organization should ascertain the probable amount of honey in the country at the close of the honey harvest; should have a large, suitable place for the storage of honey, and be in position to advance a quarter of the actual value of the honey handled. He proposed this should be managed by one efficient man (with his own special assistants) capable of managing great affairs, and that he should be responsible only to a board of five directors, elected annually by the stockholders. Stock should be taken at so much per colony of bees owned. An exchange of this sort ought to be a handsome dividend-paying investment.

Those who heard the address and discussion were convinced that *that* was the only way the bee-keepers could realize good prices for their product. I believe such an exchange ought to be organized, and that all of the Wisconsin bee-keepers should be interested in this subject, and fall into line and help make it an effective co-operative organization.

A resolution was passed recommending the National Association to bring up the subject of a honey-producers' exchange at their next meeting.

QUESTION-BOX—SELLING BEES.

The question-box is a prominent and helpful feature in our conventions, and the rest of the afternoon was spent in questions and answers, or, perhaps I should better say, discussions. This is where some can be made to talk. Some of the most backward about talking in conventions have the best and most practical methods, but are too bashful to let their still, small voices be heard in an assemblage of that kind, but if called upon, and urged, they will disclose their secrets.

Which would be the more profitable, to keep bees for their honey product, or for sale?" was asked. Some thought it the most profitable to keep bees for sale. Mr. York suggested that it would pay to rear bees for sale, and said he thought he could dispose of 500 colonies annually at $4.50 to $5.00 per colony. But the question came up, if there would not be a greater danger of overdoing that than any other branch of bee-keeping.

Mr. Lathrop said that from personal experience it was not profitable to sell bees for less than $5.00 per colony. One member said he would not sell bees to his neighbors as he wanted their honey-trade. But if Mr. Neighbor really wants bees, and so many people are in the business of selling bees, he will buy of some one else, and then you have lost the sale of the bees and also the honey.

SWEET CLOVER.

The sweet clover question was discussed. It was thought that it was peculiarly adapted to some kinds of soil, and thus was more valuable as a honey-plant in some localities than in others. One having experience in sowing sweet clover seed suggested that the seed should be sown about the time the seed ripens, as it was best to follow up Nature. Mrs. Lucky said that the bee-keepers' sweet-clover enemies will turn out friends if we will persist in sowing sweet clover seed. Almost all farmers object to sweet clover until they become acquainted with its value, and then they like it.

The bee-keepers did not hold an evening session, as we usually do, but went in a body into the Assembly Room where the Wisconsin agriculturists, horticulturists and bee-keepers, held a joint meeting. The evening program consisted of addresses by Prof. Henry and Ex-Gov. Hoard, interspersed with vocal and instrumental music and readings. It was a very profitable evening. Prof. Henry made us better acquainted with our Holland neighbors than we ever were before.

SECOND DAY—Morning Session.

Thursday morning's session opened at 9:30 with Vice-Pres. Huffman in the chair.

EXTRACTED HONEY.

The first on the program was a paper on the "Production and Care of Extracted Honey," by Elias Fox, of Vernon County, read by Mr. York. We were sorry Mr. Fox could not be present to give his paper, as he is a good convention man. But we were glad to hear his paper, as it was a good, practical one, full of note-worthy pointers. A lively discussion followed it and the subject of sour honey came up. The man who extracts unripe honey, whether at the convention or not, was scored on all sides. Mr. Wilcox thought people who produce sour honey ought to try to earn a more honorable living than to sell unripe honey. The question was asked, "What should be done with sour

honey?" and was answered that if the honey was heated the flavor would be greatly improved.

Our honest Mr. Gross was asked what he did with his sour honey, and he answered, "I eat it." The secret is, Mr. Gross never has any sour honey to eat.

Mr. Wilcox said if thin honey was put into barrels or cans, and corked up tight, it would not sour; but if the barrels or cans were left open to the air, fermentation would be the result.

MOVING BEES—LAYING WORKERS.

It would indeed seem strange not to see the familiar face of Mr. Gross at our annual conventions, and indeed we would miss him for he is the life of the meeting. He kindly consented to give some of his experiences in moving bees. And I suppose not any one man in Wisconsin has had more experience in moving bees than he. I wish I were a shorthand reporter, so we could have his full talk here, so all could enjoy it as we did. Mr. Gross spoke of losing all of the brood after moving bees long distances, and also experiencing heavy losses in queens.

Mr. Pierce spoke of a friend moving bees a long distance, and said he watered the bees while *en route*, and that the brood was all right.

Mr. Lathrop said he had quite a good deal of experience in shipping bees, and that he filled an empty comb with water, thus furnishing the bees plenty of water while *en route*.

Some one suggested that Mr. Gross' loss in queens when moving was due to having old queens, as they were not as likely to stand the trip as well as young queens.

At this time the subject of laying workers came up, and Mr. France spoke of a method he used in disposing of them. He said he took the colony containing the laying worker, bees, combs and all, to an outer edge of the apiary, just before sundown, and brushed all of the bees off the combs, returning the hive and combs to the old stand. The bees will return but the laying workers will not; then a queen may be introduced with perfect safety.

BENEFITS OF CONVENTIONS.

Mr. Huffman read an excellent paper on the benefits derived from attending conventions. It seemed the subject was particularly adapted to Mr. Huffman, because he is one that can get the most out of a convention. He is always able to turn the searchlight on the dark places in almost every subject in practical and successful bee-keeping. He said, "The conventions have proven to be a school of no small importance; it is at these gatherings we get the very extract of success in a nutshell. They are important, not only in regard to dollars and cents, but important in regard to social acquaintances." The thought he wished to indelibly stamp upon the minds was that much can be done through organization, and in exchanging of thoughts which no individual could otherwise hope to do.

OTHER SUBJECTS.

The next number on the program was a paper by Mr. C. A. Hatch, on wax-production. Owing to Mr. Hatch's inability to be present many were disappointed. He was president of the organization a number of years when it was in its infancy, and being a man of progress he always has something new in vogue. He had something entirely new and improved in the way of a wax-press, which he was going to bring to the convention. Indeed, we regretted his absence very much.

The next on the program was a paper on the value of good queens, and methods of introduction, by the secretary.

The program was concluded by an address by Pres. France, on co-operation of State and National associations.

The rest of the forenoon was spent in a business session. One very interesting item of business was the paying over of $7.00 to the State Association from a disbanded Association of nearly a quarter of a century ago. As early as 1878 there was a Wisconsin Bee-Keepers' Association, and it seems they were quite prosperous in a financial way, for they had in the treasury $7.00 when they disbanded, and at this last convention Mr. James McLain turned the money over to our present organization. Mr. McLain was made a paid-up life member of our present Association for his honesty and integrity.

The reports of the secretary and treasurer were read and approved. The election of officers, or perhaps I would better say, the re-election of officers, resulted as follows:

N. E. France, president; Jacob Huffman, vice-president; Ada L. Pickard, of Richland Center, secretary; and H. Lathrop, treasurer.

F. Wilcox was chosen as Judge of the apiarian department at the State Fair for 1902.

The Wisconsin Bee-Keepers' Association is certainly in a flourishing condition, and every member ought to be proud of it and hold it up as an exemplary association. We have more members and more money than ever before, and nothing but friendliness and brotherly love prevails. Those who fail to attend the conventions miss an intellectual and social feast. Resolve now to be present at the next meeting in 1903, and make everything else secondary. Convention week is the first week in February.

Contributed Articles.

No. 3.—Bee-Keeping for Women.

Getting a Start in Bees—What and Where to Buy

BY EMMA M. WILSON.

If in starting out in bee-keeping you intend starting with one or two colonies you will probably want to buy them about the middle of May.

The first thing you are interested in is what to buy, and where to buy. If you can get good Italian bees near home, you would better take them, even if you have to pay quite a little more for them than you would for black bees. To be sure you can Italianize the black bees, but it will take time and considerable trouble, and if you are only a beginner, and have not had any experience, it may cost you more than you would have had to pay extra for the Italians to begin with.

If you can not get the Italians near home, and can get the blacks, then you will have to take your choice between the blacks and Italianizing them, and sending away for Italians. I hardly know which to advise. A good deal will depend upon circumstances, at what price you can buy the blacks at home, and how far you would have to send for your Italians. Expressage on bees is very high, and unless you can get Italians somewhere near home I believe I would take the blacks at home. If you are buying of a good, reliable bee-keeper, better tell him what you want, and leave it to him to decide what colonies to give you. If, on the other hand, you are buying of a farmer who knows nothing whatever about bees, you better do your own selecting. Select colonies with a strong force of bees, and heavy with honey. If you can get a colony that has cast a swarm the past season, you will be sure of getting a young queen.

Having got your bees, the next thing is what to do with them. You are anxious that those bees should do the very best they can, and you want to give them every advantage.

Place the hives in a somewhat sheltered spot, not so much sheltered but what they will have plenty of air, letting them face east if convenient, although a southeastern or southern exposure is also good. Then I should certainly want them in the shade of some tree, if possible, for the sake of my own comfort while working with them.

I can readily imagine how carefully those two colonies of bees will be watched. Not much danger of any swarms getting away from them, if careful watching will prevent. Still, I think I would want the queen's wings clipped. It will save you lots of trouble climbing after swarms. To be sure, you might manage those two colonies, but you know you are going to have a whole lot more after awhile, and you might as well begin right.

I think I hear you say, "I never could clip a queen." Let me tell you it is just the easiest thing in the world when you know how. Of course, you will have to be able to find your queen for the first step, but with a little practice you can soon do that. Now you are to catch the queen. Don't get nervous, but gently pick her off the comb by the wings. Take her head and shoulders between the thumb and finger (be careful not to catch her by the abdomen, or hinder part) of the left hand, and then with

a pair of embroidery scissors clip off both the wings on one side. Don't pinch her so tight as to hurt her, and be careful that you do not cut off a leg while you are clipping the wing.

I remember how my heart beat, the first queen I clipped. I felt sure I was killing her, and I assure you it was a big relief to see her scamper over the comb when I let her go. I have clipped a good many queens since, and have never hurt one yet that I know of. So you see it is not such a dreadful thing to do, after all.

You want your bees to swarm—of course you do. Let me tell you, you will see the time when you will wish most heartily that they never would swarm; but just now you are anxious for more bees, and every swarm means another colony. But be careful that they do not swarm too much. For that will result in weak colonies, and what you need is strong colonies. A good, strong colony in a good season will give you one good swarm. It might give you two, but the chances are that the second swarm would not be good, and it would probably weaken the old colony too much.

When the swarm issues, move the old colony a few feet away and put in its place a hive filled with frames containing comb foundation. Put the caged queen at the entrance and when the bees return as soon as they get to running in nicely liberate the queen and let her run in with the other bees. Then place the old colony close to the swarm. In about a week take it away, and place it on a new stand. The flying force of the old colony will then return to the swarm, making it a good, strong colony. The old colony will be reduced enough to prevent any desire for swarming. It will rear a young queen, and the hatching brood will make it a good, strong colony for winter.

It is advisable to have hives, combs, etc. all ready for the swarms when they issue, so they can be placed right where they are wanted without the delay of getting them ready after the swarm is out. The first swarm is quite an event to a beginner, and you are likely to be somewhat flustrated. It helps much to steady your nerves to know that everything is ready waiting for use. McHenry Co., Ill.

Bees in Spring — Extracting-Combs — Foul Brood.

BY C. P. DADANT.

1. Would you remove the covers from the outer casings and super, so as to allow the packing to dry, the sun shining warm, but not warm enough for the bees to fly out? Or would you not disturb the bees, but wait till it is warm enough for them to fly?

2. How do you have your extracting-combs built? In the surplus case, or in the brood-chamber?—C. D., Michigan.

1. We never remove the covers from the hives in chilly weather on account of moisture. If the weather is so cold that the moisture in the super is frozen, it can do but little harm, and if the bees are powerful enough to keep it thawed, they run no risk from its dampness unless the dampness is so great that water may run down into the body of the brood-chamber. Such can never be the case unless the hive top or roof leaks badly, and a good bee-keeper should not allow this. But it is an error to disturb the bees in cold weather. Every bee that leaves the cluster is a lost bee, unless the colony is strong enough to keep every part of the hive warm, and we must not expect this, especially at the end of a cold winter. It is best to leave the bees alone till a warm day comes.

The present winter has not been a hard one on the bees, but nevertheless we have heard of quite a number of losses owing to the bad quality of the food. This was the first time in our experience that bees were seen to gather honey-dew in September, and this honey-dew—the worst bee-food after fruit-juice—is now showing the results of its consumption, by the amount of diarrhea that it has caused wherever the bees have been confined a month or so without interruption.

2. We have our extracting-combs built in the super where they are to remain. We use a frame that is only 6 inches deep in the super, and we could not have the combs of this frame built in the brood-chamber because they would not fill the full space of a brood-frame. Besides, we can see no advantage whatever in having the extracting-combs built in the brood-chamber. We usually use sheets of foundation of the same grade as those that are used for brood-combs. Some of our friends who produce honey in extracting-frames, with the intention of consuming a portion of this honey in the comb use a light grade of surplus foundation so that the honey may be consumed without the objection of the fish-bone, which is caused by a heavy grade of foundation. But it would be a mistake to produce honey in this shape for sale. The large combs—say 6 inches deep and of the full length of the brood-chamber—are very advantageous to produce surplus honey if it is for home consumption, because the bees much prefer putting their honey in such places rather than dividing it up into small sections, and for this reason I am sure there is a greater production in large frames; but the sale of this honey would be very slow, for the customer wants small packages, and it is quite probable that not more than two-thirds of the actual market value of comb honey could be realized when sold in these large frames; but the bee-keeper who produces honey only for his family does not consider that, and can certainly make a better season by using the larger frame. Such combs when fully built and sealed, are very fine. I remember that, years ago, before the invention of the section honey-box, we took the first premium at the Iowa State Fair on a pyramid of full-sized combs of white honey, and I do not see at the present day any display of honey that can please the eye as much as these large white sheets did.

ROSEMARY FOR FOUL BROOD.

The question of foul brood seems to be interesting a great many people now, and from the reports that I have seen, it would seem that there is a great deal more of this disease in the country than was thought. I have never seen a case of foul brood anywhere, and I wonder whether in many instances they do not mistake accidentally dead brood for foul brood. The easily cured cases are very probably of this category, like the case quoted to me by the manager of the Luxembourg Garden Apiary at Paris, which he said had cured itself without any doctoring.

I see a new suggestion in the January number of the International Review of Apiculture concerning foul-brood. If this is not a case of false foul-brood, the suggestion may be of some value. I quote:

"Having noticed, last winter, in Tunis, where I was taking care of a large apiary of over 500 colonies, that during the blooming of rosemary (Rosmarinus officinalis) which is very abundant and melliferous, the condition of several foul-broody colonies had been improved, I concluded to treat the hives with essence of rosemary, which has well-known and strong antiseptic qualities. The results obtained by this new process have been excellent, and in order to make sure of its efficacy, upon my return in Valias, I applied it to 3 diseased colonies. After three weeks, although the disease was deeply rooted, I could no longer find a single diseased larva in those hives."

"The low price of essence of rosemary, which is to be found in every drug-store, and the ease with which this remedy can be used, some 15 or 20 drops being poured into the hive from time to time, give each apiarist a very good chance to try its efficacy. It would be advisable for bee-keepers all over the land to try this method and report to the publishers, if successful."

This may be worth trying. Hancock Co., Ill.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

NATURE AND HONEY-STORING QUALITIES.

As to the discouraging thought that Nature has already bred honey-storing qualities to the extreme limit, there are important arguments on page 118. How about milk-secreting qualities? Nature has bred at them—after a fashion—and her fashion is to have just enough milk to rear a calf, and no more. When man takes a hand he doubles and triples the milk—does it with comparative ease, and in a limited time. Nature does not want three times as much honey stored as is needed to winter a colony; but man does want it. My present feeling is that this argument is a little too strong. Calves rarely die for lack of milk; but colonies often die for lack of honey. But I guess there is *some* validity in the argument; at least I hope so.

CONDITIONS OF BEE-EXISTENCE.

There's an idea on page 120 that will pay for some more reflection, perhaps. The conditions of existence which surround the bee cannot be very greatly changed. Animals are plastic in man's hand *because* in domestication the conditions of their existence have been changed immensely. The struggle and anxiety about food is entirely removed. No more trembling fear, and running away from rapacious beasts. Shelter in place of exposure to the elements. Leisure time in abundance in the place of preoccupation. Provocation to think. Opportunity to form friendships both with man and with each other. No wonder metamorphosis sets in and gets lively. Will not the lack of similar things make the bee unresponsive? Sounds forcible. But why then should these two crowds of people disagree so? One crowd says: Don't cross varieties, and beware of the daughters of your best honey-colony—else your stock will get to varying *too much*. T'other crowd says: Don't expect much result in one million years because *bees will not vary enough*. Let's mix these two crowds and take the average.

TESTING TONGUE-LENGTH OF BEES.

Mr. Simpson's way of testing tongues with honey in small glass tubes is obviously *the* right way. I used actual clover-tubes when I was in the biz; but I wished for glass tubes pretty strongly. The going-to-be difficulty of filling them worried me a little; and I never thought out the correct solution. To see Mr. Simpson's solution made me mentally swing my hat. Put the shorter leg of a J-shaped wire in the tube, and withdraw it while the mouth of the tube is plunged in honey. Also his way of testing the capacity of the honey-sac seems about as good as weighing, and very much less fuss. 'Spects any of our bees have sacs big enough; so let's not worry about that at present. If we could make their sacs bigger more bees would fall and perish on the road. Page 120.

BEWITCHED WITH BEES.

Bewitched by a ruta-baga turnip—some men would as soon be, as to be bewitched by a bunch of torpid bees underneath a down-cellar hive. As related on page 121, Mr. Doolittle finds it difficult to get out of his cellar, he's so bewitched. No possible doubt about the fact that Mr. D's bee-fever struck in and became chronic. We really hope he won't be killed (Biddle-brother style) eloping with any apicultural turnip.

ARE THERE TWO VARIETIES OF YELLOW SWEET CLOVER?

Anent Dr. Miller's answer on yellow sweet clover, page 123. If I remember the reports aright, there are two quite different yellows—one the same thing as the white, the other a totally different species. Just now I half remember that we have been told somewhere of the distinct species having at least two varieties that varied considerably.

HAULING BEES IN OPEN HIVES.

About hauling bees with wide-open hive entrances, if there are two persons along, and a smoker, and only a few hives, it is very much the best way. To keep in an infuriated condition for hours is quite damaging to the bees; and being unable to get out does not help the damage any. Even if the two persons are greenhorns they can be told how to keep bees in subjection with a smoker. On the other hand, having captive bees break loose on the road (as they mostly do) will "try the bottom" of non-bee-keepers very severely. Page 126.

PROPER VENTILATION FOR A BEE-CELLAR.

"Here she goes, there she goes"—first complete victory for ventilation through the soil only—then fresh air and lots of it every night. Both ways certainly succeed in the bee-cellar. Which is the one that will *always* succeed? Page 127.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

Biographical.

REV. OSCAR CLUTE.

The death of this good man, so well and so favorably known to apiarists the world over, which occurred at the Soldiers' Home, Santa Monica, Calif., about Feb. 1, will come to bee-keepers generally, as it did to the writer, with a shock, and will bring sorrow no less than surprise.

Mr. Clute was born in New York, near Binghamton, about 63 years ago. Early life on the farm formed attachments which never let go their hold. His preparatory course was passed with high grade at the Binghamton Academy. He entered the Michigan Agricultural College with the class of 1862, in 1859, where he was a highly-respected classmate of the writer. His character and scholarship while at the College were excellent. He won not only the regard of students and teachers, but, likewise, the admiration of all connected with the College. By hard study he gained time to teach one year during his course, when he was at the head of the Ionia city schools. His success there was pronounced. This bright record, both as a teacher and as a student, led to his engagement as instructor at his Alma Mater, immediately upon graduation.

He was specially good in mathematics, literature, and science, which he dearly loved, and his professorship, which he received later, was in mathematics, though he taught with marked success the biology, especially entomology, which always attracted him greatly.

In 1866 he resigned his position, and was succeeded by the writer. He then took a theological course at Meadville, Pa., and upon its conclusion entered the Unitarian ministry, his first charge being at Vineland, N. J.; while there he was one of the founders, and the first president of a very sucessful horticultural club. He also took great interest in agriculture, and wrote extensively and ably for the agricultural press.

In a few years he resigned at Vineland to take a more responsible position at Keokuk, Iowa, and later he was advanced to the First Unitarian Church at Iowa City. While at Keokuk he visited the writer at the Michigan Agricultural College, and of course looked over the bees. He was enthusiastically won to the bee-keeping ranks. His culture and ability stood him in good stead, and he marched rapidly to the front. He came intimately to know the Dadants, and, as Garfield said, to sit on one end of a log with Mark Hopkins on the other was the equivalent of a college course. So to be in close touch with the elder Dadant was sure to push one naturally fitted rapidly to the front as a bee-keeper.

Mr. Clute often told me that his income from his bees was for several years in excess of that received from his church, though the latter was an influential one. While at Iowa City he wrote "Blessed Bees." This charming romance was at the same time so fascinating and so realistic that it had a wide reading, and many supposed it was the record of actual experience.

About 1888 he came to the First Unitarian Church of Pomona, Calif., from which he was soon called to the presidency of his Alma Mater. He remained at the Michigan Agricultural College for three years, when he resigned to take a like position at the Florida Agricultural College, where he staid for some years. He was always known as a hard worker, a close student, and at the Michigan Agricultural College he always did what he could to aid the bee-keeper's art. He was always an eloquent advocate of any and all efforts to further every department of agriculture.

Prejudice, because of his Northern birth, was bitter against him in his Florida home. His home was burned while there, and with it went valuable manuscripts, which was not only a loss to him, but to agriculture.

President Clute, after a short, well-earned rest, came again to his old Pomona church. He remained there less than two years, when disease—a kidney trouble—necessitated his rest from all mental work. For a year he was very successful as a breeder of Belgian hares, but he was unable to continue, and for the past year or more he had been unable to do any work.

The past months he spent at the Soldiers' Home, near

Santa Monica, where pneumonia, coupled with his chronic stricture, removed him from us.

Dr. Clute married a most estimable lady—Miss Merrilees—in 1869. He leaves her and five children, none of whom were with him at the last trying hour.

As an earnest student, a devoted friend of agricultural education, a writer of vivid, exact English, a warm, earnest friend, and a man of sterling character, Dr. Clute was an exceptional man, and one who will be sorely missed.

A. J. COOK.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Cleaning Up Combs Where Bees Died.

I have a lot of combs taken out of hives where the bees died. I am straining out the honey, and would like to have the bees clean up the refuse; also the hives which are smeared with honey.

1. When should I put the hives and refuse out for cleaning up.

2. Would it tend to prevent robbing if they were placed say 20 or 30 rods off from the apiary? ILLINOIS.

ANSWERS.—1. It matters little when; but perhaps it will be well to wait till bees are flying freely.

2. It will be well to set them some distance away, although there is little danger from having the work done near the hives, *providing* you do not take away the combs till after the honey has been cleaned out, and not only till then but till the bees have ceased trying to work over it. If you want to make a sure case of robbing, set a hive with honey near the apiary for the bees to rob, and then take it away while the bees are working at it in full blast.

Taking Bees Out of the Cellar.

I have 100 colonies of bees to take out of the cellar this spring. They are all in good shape. Last year they were all right when I put them out, and it was very warm, and putting them out all together they would all go out of the hive, and they do not all go to their home again; some hives would be crowded with bees and the other colonies would be very weak—just little bunches of bees with their queens.

Would it be better to take them out at night, or when it is colder, so they would not rush out of their hive and get mixed up? The weather is very nice now, and I may take them out soon. MINNESOTA.

ANSWER.—I am not sure I know enough to advise what is best to do. For many years I have taken out my bees without any such trouble as you mention, yet I know that others have had just that trouble, many colonies being ruined by the wholesale desertion of hives. Having had no experience in the matter myself, I can only give you the advice that others give to avoid the trouble. I think the common advice is to avoid bringing out a large number at once. They say that a large number coming out at one time makes so much excitement that the bees rush out of their hives pell-mell, as if swarming, and then they don't know enough to get back into their own hives. In a late number of Gleanings, a writer advises to bring out about one out of twelve each good day till all are out, setting a board in front of each entrance as soon as the bees of that colony have had a good cleansing flight. The idea in this is to avoid the excitement that occurs when so many are taken out.

Without advising you to take the course I pursue, I'll tell you what I do that may *possibly* account for the fact that I have no trouble when I take out two or three hundred at a time.

The evening before I think I will take out the bees, I open wide all cellar doors and windows as soon as it gets late enough in the day so that the bees will not fly out of the cellar. Very likely the cellar has been opened up in this way every night for several days, and not closed up in the morning till there was a show of bees beginning to fly out. Put that down, then, as the first essential, that the cellar must have been well aired all night previous to taking out. The next is that the weather must be right. The sun must shine, and there must be nothing in the way of clouds or mist. Neither must there be a strong wind. If the day is not of the right kind, then the only thing is to wait till a day comes that is of the right kind. In that way I have safely taken my bees out in large numbers for more than a quarter of a century; but you must use your own judgment as to whether the thing will be the best for you.

I may add that as a rule my bees are very quiet when taken out, sometimes four or five colonies being carried out one after another before the first one of the four or five begins to fly.

Feeding Bees—Increasing an Apiary.

1. Will it be a good plan to feed my bees after I put them out-of-doors?

2. By feeding them will it make stronger and better colonies of them when the honey-flow comes on?

3. Should bees be fed in the cellar? Am I doing it properly by placing unfinished sections over the cluster, and leaving the top cover off?

4. I wish to increase my apiary to about 100 colonies. Would it be advisable to buy bees in box-hives in April, for $2.00 to $3.00 per colony, and then transfer them into other hives? There are no Italian bees in this section.

5. Would I get pure Italian bees by purchasing 2 or 3 Italian queens and introducing them into my hives? Would the bees in the colonies in which they were placed be pure Italian bees? Would it be advisable to do this, as my best colony last year produced 80 one-pound sections of honey in the super while some of the others stored scarcely enough to winter on? NEW YORK.

ANSWERS.—1. Yes, if they have not enough feed to last them till they can gather. If they have plenty it will probably be better to let them alone.

2. If they have plenty of honey to last them through, extra feeding, unless in the hands of a person of much experience, may weaken instead of strengthen them.

3. Your plan of feeding is all right; but it may be well to give no more than you think necessary to bring the bees through.

4. Yes, only it is possible you may do as well to let the bees swarm, and keep the box-hives for swarms another year.

5. If you give a colony a pure Italian queen, all the workers coming from her eggs will be pure Italian, but, of course, there will be workers there till the progeny of the former queen have time to die off. It will pay to replace any very poor queen.

How to Get Increase of Colonies.

I wish to ask a few questions through the American Bee Journal about how to get increase of colonies. I now have 20 colonies. I have taken the American Bee Journal for the past 5 years; I also have Cook's "Bee-Keeper' Guide," and 4 volumes of the American Bee Journal in Wood binders, but cannot find just what I want to fit my case.

I use the 10-frame Langstroth hives, and run for comb honey, extracting only unfilled sections.

There is lots of sweet clover close by, but no other bee-pasture after maple-bloom until sweet clover. I think that is why I don't get increase during maple-bloom, fruit-bloom, etc.

The colonies build up fast, get strong, and act like swarming, then all of a sudden there is a change; some of the colonies kill off their drones and show in other ways that there is no honey to be had. Then for 3 or 4 weeks they get barely enough to keep them from starving until the sweet clover comes, about July 1, then they begin to rush, and then it is too late. I don't want them to swarm, but want to get them in the supers and keep them so busy that they will forget all about the swarming, except 2 or 3 strongest colonies which will throw off a great swarm, but no more for the past 4 years. I have had only 2 to 3 prime swarms a year. From 15 colonies 4 years ago I have 20 colonies now; the losses each year and increase keeps me about even; for the past three years I had an average of 100 pounds of surplus honey from each colony, spring count,

and there is sweet clover around here enough to supply 75 to 100 colonies.

Now, how many colonies can I increase to and still get my average, 100 pounds, spring count, the coming season?

I will give you my plan and see what you think of it, and then tell me a better way. I have read up a good deal on the nucleus plan, but do not think I would like that; it would take too much time and work. I have some extracted honey and I propose to buy granulated sugar, make a syrup and mix ¼ honey and ¾ syrup, and take 10 colonies and feed them right after maple and fruit bloom all they will take to stimulate and keep up brood-rearing, and get them to swarm naturally before June 1, if possible; then right after the first swarm, divide the old colony equally, giving the most brood and one or two of the best queen-cells to one, and buy a laying queen for the other half, filling both hives with full foundation frames. But if they don't swarm before June 10 I will divide nearly equally, giving the queenless half the most brood and best queen-cells, if any, or buy a queen for them. I have made some feeders that will hold about a quart of syrup (the bees are packed with supers on the top), and I intend to turn back one corner of the cloth covering the frames, put the feeder on and pack around it so that the bees cannot get in the super (only in the feeder), which is covered with glass so I can see the condition of the super by lifting the super-cover. The bee-house is made tight and plastered so that they are not affected with sudden changes in temperature. The hot sun will not bring them out until it is warm enough not to chill them.

I have never fed my bees anything yet except to set out combs or waste honey for the bees to clear up.

1. About how much syrup will a good, strong colony use up in 24 hours.

2. Would I better fill the feeder, or just give what they will use every day?

3. If I divide the old colony after the first swarm, how long must I leave the queenless half before giving them a new queen? or will there be queen-cells enough to give each part cells?

4. If I divide before June 10, in case of no swarms before then, which would be the most profitable, to let them rear their own queen, or give them a queen—say the queen costs 75 cents and the honey harvest begins July 1?

5. Would it be more profitable to feed the whole 20 colonies, and divide equally June 1, in case of no swarms before then, and feed all that need it until the honey-harvest begins?

6. How many queen-cells must I leave in the queenless half? ILLINOIS.

ANSWERS.—Answering first the questions that are not numbered, I should say that you can not expect to keep up the same yield per colony if you increase any at all beyond the same rate you have had in the past. You may as well count that when part of your force is devoted to increase it must take that from your crop. But that does not make it unadvisable to increase, for the loss by increase this year will be more than made up in the crops of succeeding years.

You say you will feed all the bees will take. You will probably find that brood-rearing will keep up as well if you feed a pound or so to a colony each day.

Whether your plan of increase would be best under all circumstances is a question, but one's own plans are generally liked a little better than the plans of some one else, and are better understood, so you may succeed well with the plans you mention.

I am just a little afraid about your feeding business. I don't understand what kind of a feeder you will have that will allow the bees to come up at one corner of the quilt, and it is quite possible that it will work quite differently from what you expect. The sun will not bring the bees out when it is too cool for them to fly, as you say, but if they work on the feed you may count on that bringing them out. If it is so cool that the bees will not fly, then it is likely that it will be too cool for them to work on the feed. Better not feed at all when it is not warm enough for bees to fly. Now for your numbered questions:

1. All the way from nothing up to 20 pounds, depending on circumstances.

2. It will be generally better to give them what will be used each day, but that also depends somewhat upon conditions and circumstances. Speaking in general terms, during May and June the weather ought to be warm enough usually to make no trouble if feed is left on all the time, except the trouble that comes from feeding too much.

3. If the queen is in a provisioned queen-cage, she may be given at once. It will be a remarkable case if there are not more queen-cells than are needed for both parts.

4. It would probably be economy to buy the queen.

5. I don't know. It may be a good plan to operate upon half, and then you can decide as to what is best for the future.

6. One is as good as 20 if it is the best one in the 20, and in a place where it will not be chilled. But you can hardly tell as well as the bees which is best, so it is better to have more than one. You will probably have enough so as to use several.

Having answered your questions, and understanding that you favor natural swarming, let me suggest a plan that you might try, at least in one case, to see how you like it:

Have five colonies built up strong, and about June 1, or sooner if they are strong enough, take from No. 1 a frame of brood with adhering bees, and the queen in an introducing-cage; put these in an empty hive, filling out the hive with frames of foundation, and put in place of No. 2, setting No. 2 on a new stand. Keep the feeder going and No. 1 will start a number of queen-cells, and when the first young queen is ready a swarm will issue with her. Hive the swarm on the old stand, set No. 1 in place of No. 3, setting No. 3 on a new stand. A day or two later, No. 1, having been strengthened by the returning bees of No. 3, will swarm again. Set the swarm in place of No. 1, set No. 1 in place of No. 4, and set No. 4 in a new place. In a day or so No. 1 will swarm again, when you will set the swarm in place of No. 1, putting No. 1 in place of No. 5, and No. 5 in a new place. Of course, the feeder must be kept going all the while if there is no pasturage.

Transferring Bees from a Log.

Last fall I cut down a white-oak that had in it a colony of bees; they are in a log about 2 or more feet long. As there were only a few days after I got them that it was fit for them to be out, I was afraid they lacked honey for the winter, so I put honey in the comb on top of the log and they took in about 4 pounds, or all I gave them. I put them into the cellar and they seem to be alive at present. The question is, When and how shall I get them into a hive? I cannot see into them, and know nothing of their condition, only of late when the day would be warm a few of them would find their way up the cellar-stairs to the light, and they at times make considerable noise. This is all I know about them.

The piece of log has in it a regular exit-place; also, since cutting off, it has a hole in the top and bottom, but I have nailed a board over the bottom. WISCONSIN.

ANSWER.—You will do well to leave them in the log till they swarm. Before that, however, see what part of the cavity is not occupied by combs, and saw off the log so there shall be no unoccupied space. Otherwise it is possible they may go on building more comb and not swarm at all. When they swarm, if you are anxious for honey, set the swarm on the old stand with the log close beside it. A week later set the log in a new place. Two weeks later still, or three weeks after swarming, drum all the bees out of the log, and unite them with the swarm, smoking both well. Or, you may drum the bees out of the log and treat them as a second swarm. If you are anxious for increase, when the bees swarm out of the log, hive the swarm and set it in a new place, leaving the log undisturbed. In eight or ten days a second swarm may issue, and you can put that on a new stand, still leaving the log undisturbed. Then you can leave the log to furnish you more swarms next year, or you can drum the bees out three weeks after the issuing of the first swarm. When all the bees are drummed out of the log, you can set it some distance away and let the bees rob out the honey. Then you can split the log open and melt the combs.

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We furnish this popular Top Buggy, with our genuine long distance, dust proof axles, longitudinal center spring, superior quick shifting shaft couplings, best quality split hickory wheels with screws in rims and with quarter inch round edge steel tires, full bolted between each spoke; also our open bottom ventilated spring cushion, fine quality double braced, full leather and full iron split hickory shafts, for $45.50

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Also booking orders for healthy ITALIAN BEES shipped this month. Full colonies, 8 frames and queen, $6.00. Wholesale rates on application.

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Cutting Foundation for Starters.

This is done for sections after the following style by M. A. Gill, as given in the Bee-Keepers' Review:

In the cutting up the foundation, I put 50 sheets into a box that just fits the sheets of foundation, but with one end and the top open. The box has saw-kerfs sawed down through the sides, at equal distances apart, as guides for cutting the sheets into five equal parts. In cutting I use a scalloped bread-knife dipped in warm soap-suds; and by a quick, sawing motion, I can, in less than one minute, have five piles (250) of starters that are true, and as loose as a pack of cards.

My wife is champion at the filling of supers, as she will average to fill 100 supers in eight hours.

Small Pieces of Glass in Shipping-Cases.

These have been recommended in Gleanings, a small piece of wood being fitted between the pieces of glass so as to cover up the edges of the sections, and the glass of old negatives discarded by photographers come into play for this purpose. F. A. Salisbury tells in Gleanings how to clean them.

"He uses a common wash-boiler, and places in it two pails of water and a pound package of Babbitt's potash. After the water comes to a slow boil, he is ready to place the glass in. But instead of immersing it in bulk in every shape imaginable, it must be placed on wooden racks so that the water can get at *both* surfaces of *each* light of glass. For that purpose he uses a pine board 3 inches wide, and just long enough to go inside of the wash-boiler. Into this he drives 8-penny casing nails about ¼ of an inch apart, zigzag, the entire length, and deep enough so they will stand up 1¾ inches. Wooden handles are nailed on to each end. The lights of glass are now stood up on edge between the nails, and the whole is immersed in the solution of potash. It is then left there for about ten minutes, when it is lifted out and soused down into a tub of water to rinse off the glass, for the photographic film will all have dissolved off in the solution.

"To expedite the work, three wooden racks for holding glass are made; and if one works right he can take 50 every 5 minutes, and have 2 minutes' rest out of each 5. When the rack is taken out with the glass it is set on the inverted boiler-cover and carried over to the tub. This catches the drip.

Comb Foundation for Swarms.

G. M. Doolittle makes a plea for utilizing the wax that is already secreted by a swarm when it issues. He says in The American Bee-Keeper:

When the prime swarm issues, they go forth, as a rule, with wax already secreted in their wax-pockets, so that they may at once commence to build combs in their new home, and if the new home is already supplied with all the neces ary combs this wax is wasted, or, what is often the case, worse than wasted, it being added to the foundation already in the sections, so that instead of drawing out the side-walls of the foundation they build with their own wax the cells of the combs, thus leaving the foundation in the sections the same as it left the mill. This causes the grumbling we have heard so much about, regarding the "fishbone" in section honey. Now, where I hive swarms on full combs, or frames filled with foundation, I use only starters in the sections, and find that the bees will

To make cows pay, use Sharples Cream Separators. Book Business Dairying" & Cat. 212 free. W. Chester, Pa

build the combs in the sections while they are drawing out the foundation below, and thus a saving is made. But, as a rule, unless we are very short in the family, I prefer to fill the sections with foundation, that I may have handsome, salable sections of honey, and use only starters of foundation in the frames below, having the starters in the frames, say from one to one and one-half inches wide. By contracting the brood-chamber to so few frames that a part of the swarm is forced at once into the sections, the bees go to work there storing honey and drawing out the foundation, while during the same time they build all straight worker-comb in the frames, so that by the time the frames below are filled with comb and brood the sections will be nearly completed also. In this way there is no detraction from the amount of section honey, so far as I can see; and we have worker-combs built that are nearly or quite as perfect as those from foundation.

Influence of Nurse-Bees.

C. A. Olmstead says in the Bee-keepers' Review that he thinks the longevity and usefulness of a bee is greatly influenced by the nurse-bees, but not its color, temper and other general characteristics. He gives the following interesting experiment:

Colony No. 2 consisted of yellow Italians, and were the meanest, ugliest bees I ever saw.

No. 14 was one of my old black stock, some I have had for 15 years, and is hard to equal for industry and gentleness; I never used a veil nor hat, and only a little smoke.

I changed places with these queens, putting the one from No. 2 in No. 14, and that from No. 14 in No. 2. From that time the brood from the cross queen was nursed by the gentle bees of No. 14; and as soon as there were enough of those yellow ones to set up shop they were ready to defend it against man or beast; and, as time rolled on, the once gentle blacks were found following their example, and often stung me.

Colony No. 2 was the cross Italian to which had been given the gentle black queen. As her bees began to hatch and mingle with the yellow ones, they were inclined to fly up, and often stung when handled; and some might think it due to being nursed by the cross bees, as they were stirred up nearly every day while caring for the brood, but, hold on now, I took out a frame of this brood just before it hatched, and put it in a colony of Albinos, the gentlest bees I ever saw, and when *that* brood hatched, the bees were very gentle and showed all the old-time traits of their strain. Being nursed by those cross bees did not affect them *in the least*.

Liquefying Candied Honey.

S. E. Miller gives his plan in the Progressive Bee-Keeper as follows:

I have purchased two lard-cans, such as are usually kept for sale in a general store; the smaller one holds about six gallons and the larger one about ten gallons. By placing the smaller one inside of the larger one, it leaves a space of about 4¼ inches all around. I took these to the blacksmith, who can also handle a soldering-iron, and had him join the cans together by means of braces in such a way that the bottom of the smaller can was about 1½ inches above the bottom of the larger one, and a space between the two as mentioned above. I was unable to find a honey or molasses gate in the town, so I had the blacksmith use a steam valve with two sections of pipe attached, thus forming an elbow. One section of the pipe was passed through the outer can into the inner one, very close to the bottom, and securely soldered to both. In short, it is a can within a can, with a space all around the inner one to contain water and a valve for drawing the honey from the inner can. Fill the inside can with honey and the space between with water, set it on top the stove and let boil until ready to draw off.

According to those who have had experience in bottling honey, we should not heat it to above 160 to 180 degrees F., therefore we should have a thermometer for testing the temperature. Mine is an ordinary thermometer graded up to 220 degrees. I took the scale, with glass attached, out of the frame and case, punched a hole in the upper of the metal; attach a string long enough so the bulb of the thermometer will reach nearly to the bottom of can, tie the other end of the string to a stick that will reach across the top of the cans and drop the thermometer in the honey. Honey will be perfectly liquid and flow freely at 120 degrees, but if to be bottled and kept liquid it is no doubt best to heat it to 160 degrees. Here is the cost of my apparatus: 1 can 60c; 1 can 40c; paid blacksmith for valve and work 60c; thermometer 30c; total $1.90.

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The freights from Cincinnati are the lowest.
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You will save money by buying from me.

Orders taken for Queens—GOLDEN ITALIANS, RED CLOVER QUEENS, and CARNIOLANS. For prices I refer you to my catalog.

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SWEET CLOVER
And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6 00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
Alsike Clover	1 00	1.80	4 25	8.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.
Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.
Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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GENERAL ITEMS

A Correction of an Old Matter.

EDITOR YORK—I desire to direct your attention to an error under which you are laboring, in regard to the weight of the honey sent by the Ontario Bee-Keepers' Association to the C. E. I. Exhibition held in South Kensington, London, England, in 1886.

On page 224 of the American Bee Journal for 1901, you give the amount as 40 tons; when in fact the whole amount was less than 19 Canadian tons; or a little less than 17 English tons, (the English ton is 2240 pounds, as we all know).

It will be remembered by some that a few years ago it was stated in Gleanings that the amount was 40 tons. Feeling that that error should be corrected I took the liberty to do so in that paper. Then at the Buffalo convention, held in August, 1897, again the amount was given out as 40 tons. These erroneous statements may be responsible for your heavy figures. It may be that the correction I made in Gleanings escaped the notice of some.

Before the honey was staged, all the invoices but one or two were in the hands of our secretary, and I gave him the missing figures. Then each exhibitor's exhibit was placed by itself, and the packages were compared with and checked off from the invoices. And as I had sent in to the Government officials the amount before I left home, as I had to do, we knew that not one pound more was to follow.

Now, Mr. York, to settle this matter of amount of honey beyond all doubt, I refer you to the British Bee Journal, page 604, Dec. 30, 1886. I also enclose a statement from Mr. Wm. Couse, secretary Ontario Bee-Keepers' Association—proof enough, I hope, to convince you that you are in error in quoting 40 tons.

There was a difference of opinion as to the amount of honey we should take; some said 50 tons, and some 100 tons, but principally through the poor crop taken that season the amount settled down to about 19 tons; but, after all, it was a very creditable exhibit indeed, of which every Canadian bee-keeper ought to have felt proud.

Ontario, Canada, March 1. S. T. PETTIT.

[We wish to thank Mr. Pettit for calling our attention to this matter, and only regret that he did not do so long ago. We simply were misled, else the 40-ton statement would not have appeared in our columns. We can see no reason for the wrong statement going out in the first place; and then for us to aid in repeating it—well, we would not have been guilty of helping on the misrepresentation had we remembered ever hearing the correct or 19-ton amount. But we are always glad to aid in setting matters in their true light, and always desire to publish the exact truth concerning everything we undertake to say anything about, if it is possible to get at the real facts.—EDITOR.]

A Virginia Report.

I began the season of 1901 with 42 colonies, spring count, and increased to 65. We had a very poor season, generally speaking, the weather being too wet the fore part of the season. The bees did well at the start, as we have plenty of sugar maple for them to gather pollen from, but when the locust bloomed

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To Make Crops Grow in Spite of Drouth.

The man who has succeeded in solving this problem is H. W. Campbell. He is not a theorist, but has put his plan into practical operation. Last year he raised forty bushels of corn to the acre on his farm in Western Kansas, when his neighbors had a complete crop failure. Mr. Campbell is a regular contributor to

THE TWENTIETH CENTURY FARMER

This year it will publish articles by him which no farmer can afford to miss. Farmers who have been following his plan have been raising big crops every year in spite of drouth. Mr. Campbell has just published a manual of soil culture which fully explains his methods. This readable volume, together with six month's trial subscription to **The Twentieth Century Farmer** will be sent on receipt of fifty cents.

The Twentieth Century Farmer, 1544 Farnam St., Omaha, Neb.

28 cents Cash paid for Beeswax. This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

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it was too wet, and they got no honey from that source, and the same way when white clover bloomed, and also when the linden bloomed, but later in the fall we got some nice honey from golden-rod and wild aster. The bees gathered sufficient stores for winter so that we did not have to feed any. We got about 3000 pounds of comb honey, for which we found ready sale near home.

Taking our situation as a whole I think our locality a good one for bee-keeping; we rarely ever have a complete failure. We winter our bees on the summer stands, and rarely lose any; and if we do lose any it is by some other cause, not cold weather.

We have had what we call a severe winter for our locality, but at my place the mercury has not been as low as zero, but it has been cold and wintry since Nov. 15, and today (March 5) it is snowing; it began last night, and the snow is about 10 inches deep, and still coming down, but I do not think it will stay long on the ground, as the season is too far advanced. P. I. HUFFMAN.

Rockbridge Co., Va.

Bees Wintering All Right.

My bees are wintering all right in the cellar; I put in 63 colonies. I have no trouble in wintering my bees. The cellar is 8x10 feet. I use the Langstroth 8-frame hive, loose top and bottom, and pack them one on top of the other 5 high. I hive the swarms on the old stands. I had only 13 swarms from 50 colonies last year, and over a ton of comb honey. I have sold it at home for 15 and 16 cents a pound. L. C. GREEN.

Winnebago Co., Iowa, March 4.

A Report of Last Season.

It is not four years since I commenced the business, the first 2 years being nearly a failure, but I think now I can do better.

Last spring I started with 4 colonies, increased to 9, and took 300 sections of nice comb honey, and my bees had plenty of honey when I put them into the cellar. They appear to be wintering well.

I use a hive of my own make, which I think is a very good kind for comb honey.

GEO. W. DAVIS.

Windsor Co., Vt., March 13.

Bees Doing Well.

My bees are doing well, I think. They seem strong, and are gathering pollen almost every day when it does not rain. There have not been more than 30 days all together, but what they have been flying; they are quite strong. I was looking at them, and they were in between all the combs, and all seemed to have plenty of honey. I did not take the frames out, but could see sealed honey where the bees were not in the way.

We have had quite a good deal of rain lately, and it is raining to-night, and the wind has been blowing very hard all day.

W. H. ROSEBROOK.

Siskiyou Co., Cal., March 11.

Some Canadian Suggestions.

A man asked me the other day how to prevent a small queen from going through the metal honey-board. I told him to feed her on dried apples and give her plenty of water to drink. Was that right?

What I want to suggest is this: I have read so often where valuable queens have been ruined by transit through the mails. Why not send such queens by carrier-pigeon? I understand that carrier-pigeons will return home immediately when they get their liberty, several hundred miles. And by using 2 or 3 pigeons a queen could be sent 1000 miles or more. For illustration, say that I want a queen from Chicago. I get a pigeon, send it to Detroit; have a party there to get another and send it to Chicago; the second pigeon would be held by the party in Chicago long enough to give the party in Detroit notice just when the pigeon would be released, and the party in Detroit hold the queen long enough to give me notice; and so on.

Where it is convenient, cheap queens might be sent a few hundred miles in the same way. Has anyone ever tried the above way of transportation? If so, let us hear from him; if not, and no one cares to try it, I think I will try it the coming season.

I would like to suggest to some one who has a cream separator, and also keeps bees and produces extracted honey, to extract

Burlington Route

Every day during March and April we shall sell

Cheap Tickets To The Northwest

Montana, Utah, Idaho, Oregon, Washington and N.W.Wyoming

Our fast train service from Chicago to St. Paul, Billings, Mont., and Denver, and our system of Reclining Chair Cars (seats free) and Tourist Sleeping Cars—only $6 for a double berth Chicago to Pacific Coast—in addition to the regular Pullman cars, makes the Burlington Route the most comfortable and convenient way to the Northwest. Ask you nearest ticket agent about it or write me for a folder giving particulars.

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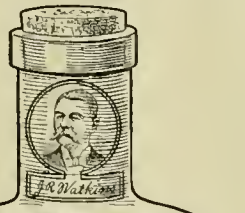

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WATKINS' REMEDIES.

They are fitted to every requirement of the home and leave little to be desired in the way of treatment of human ills for either temporary or permanent relief. Of special merit because of its wide range of uses, is our **Watkins' Vegetable Anodyne Liniment.** Thousands of our patrons use it daily for both internal and external purposes. It is unexcelled in treatment of **Colds, Coughs, Colic, Diarrhoea, Dysentery, Cholera Morbus, Indigestion, Cuts, Bruises, Burns, etc.** It is equally good for man or beast. Be ready to take them in the start. There is no telling how much trouble, money or even life itself, this foresight may save you. If for any reason we should not have a salesman in your community, write to us direct and we will see that you are supplied.

FREE TO YOU. Send us your name on a postal card and we will send you a free copy of our Watkins' Home Doctor and Cook Book. 100 pages full of helpful hints, recipes, farm, garden and home information. Write at once and address

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10 Liberty St., WINONA, MINN., U. S. A.

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some the same day that the bees gather it, and run it through the separator just to see the thick honey run out of one spout while the water runs out of the other.

We have had a very dry winter. I mean a dry atmosphere. The bees seem to have wintered well so far; they had a good flight about February 25, which will satisfy them until spring opens. J. ALPAUGH.

Ontario, Canada, March 10.

A Brief Report.

About ¾ crop surplus secured last year; 43 colonies, fall count, and all alive now. No swarming for 2 years. W. D. HURT.

Cass Co., Mo., March 8.

Wintering Well—Good Home Market

We have only 12 colonies of bees. I think they have wintered well so far, and they seem to be in good condition. There have been only a few days warm enough for them to fly, but last week Monday they were out strong and seemed all right.

We have a market right at home for all the honey we have to spare. But we never do without it ourselves for the sake of selling it. R. T. CLASON.

Mildland Co., Mich., March 6.

Species of Anthophora.

I this day mail you 2 bees, dead, of course. I should judge from the deseription they resemble Apis dorsata, but haven't they a fine reach? In those bees I think I see the ideal of those long-tongued venders in the east. If you do not object, you can give me the name of these bees through American Bee Journal. EDWARD PORTER.

San Diego Co., Calif., Feb. 19.

[The bees sent by Mr. Porter are species of Anthophora. These are long-tongued, robust bees that look in a general way like male honey-bees or drones. They are solitary bees, and so will never be of any use in bee-keeping. They work on flowers, and like all bees feed their young on pollen. Thus they bie away to fields and orchards for both nectar and pollen.

Like all bees, they are valuable in pollinating flowers and rendering fruit-trees and vegetables more fruitful. They will serve to spread pear-blight even if all the bees are banished from the pear-orchards. These can not be pushed away, and will prove ample to inoculate with blight, but far from enough to pollinate the blossoms.—A. J. COOK.]

Not a Bee-Subject.

"A horse that never was a colt," is what Mr. Hasty claims to have in his possession (page 152). Is it possible that he has made a mistake? or has my old dictionary "gone wrong" in the definition of a colt? It says a colt is a "young horse." Wonder if Hasty's horse was never a "young horse."

A. E. WILLCUTT.

Hampshire Co., Mass., March 8.

An Experience with Bees.

I am a merchant and have a general store in a small town in Oneida county, N. Y., and carry a general line of merchandise. I have been keeping a few bees as a side-line to my business, having had a few colonies for the past 10 years. But I never had any success with bees until I got a bee-book, and subscribed for the American Bee Journal, which I have taken for nearly a year but of the two I would prefer the Journal but would say to any one who keeps bees he should have both.

Last winter I had 2 colonies which I wintered in the cellar; and they came out in the spring rather weak, and in April I purchased 2 more colonies in old hives, for $2.75 per colony. They took to swarming, the first swarm coming out May 22. They kept on swarming all through June until I had 18, all told. I did not know enough about the bee-business to increase my little apiary any other way, so I was very much pleased when a swarm issued.

You would have laughed if you could have seen me one hot June day last summer. Just as I was hiving one swarm, another one

FOR SALE

48 colonies of bees, mostly Italian, on 10 good combs in good Langstroth hives. Price, $5.00 per colony, with new fence separating supers, 28 sections, and foundation starters. Or, if preferred, 5 full combs and 2 empty frames for extracted honey, including upper story.

1JA1t C. KENDIG, Naperville, Ill.

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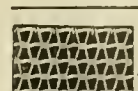

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Queens you should Have

Does blood tell in other stock? Give your bees a chance. Stock used for breeding the queens offered—not from a sport, but my pick out of an apiary giving last season an average yield as follows:

Honey-Gathering.

102 lbs. extracted and 68 lbs. comb honey per colony besides increase and stores for winter.

Quality of Comb-Honey Produced.

"Man! It would dazzle you."—Wm. Envoy, Ontario Government Inspector of Apiaries.

Wintering Qualities.

Up to the present (January 30) I never found these bees to show the least indication of unrest—always perfectly quiet. They are wintering perfectly.—Frank T. Adams, Brantford, Canada.

General Commendation.

Out of those queens you sent me I have produced the best race or strain of bees I ever owned. Remember that is saying a lot, as I have tried every breed imported in this country. The bees winter better, build up, and stand cold chilly winds in spring better, and are more suitable than any bees I ever owned. For the season they gave me about double the honey the pure Italians did, and more increase. Glad you are going into the queen-business, and are going to join the ranks again. We are much in want of a few men like you. C. W. Post, Ex-president Ontario Bee-keepers' Association (owns 365 colonies).

S. T. Pettit, Canada's most successful comb-honey producer and bee-keeper, says: "The blood in my apiary is largely the progeny of queens sent by you, and they are grand bees."

Prices of Queens.

They are duty free to the United States. Tested, $2.00 each; $10.00 for 6; $18.00 per dozen. Untested until July 1, $1.25 each; $7.00 for 6; or $12.00 per dozen. Same after July 1st, $1.00 each; $5.50 for 6; or $10.00 per dozen. Larger quantities, prices on application. Postage stamps taken for fractions of a dollar. To be fair to every one, no selected tested queens are offered. Every one has the same chance. The above queens are bred from a careful selection of Italians and Carniolans. Pure Italian and Carniolan queens same price. Price of full colonies on application. Orders booked as received, and filled as quickly as possible. Order early.

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issued and started for the woods, and as I did not wish to lose any swarms I started on a chase after them, all bundled up with my bee-regalia on. I kept up with them for nearly half a mile, until I had to climb over a stone wall, when I lost sight of them. Then I returned, with the perspiration streaming down into my boots. These 2 swarms issued from the same hive about one hour apart. Why did they not all come out in one swarm, both being large swarms? I doubled some of the smaller colonies up after the honey season, so I had 14 colonies that I put into the cellar last November.

I placed all the new swarms in 8-frame Langstroth hives. I have just been in the cellar to examine them and found them all alive and with plenty of honey except 3 colonies which I think are just about out, and as I had a quantity of sections that were about 2-3 full, I took the covers off and set these sections right over the cluster, and they went to eating it at once.

I think this is a good locality for bees. As a rule they can be taken from the cellar about the middle of April and placed on their summer stands.

There are not many bees kept here within 10 miles, only 2 or 3 colonies in a place by some farmer who does not half care for them.

There is an abundance of white clover here which lines the roadsides and pastures.

F. E. CASTLE.

Oneida Co., N. Y., March 1.

How He Began With Bees.

In the bee-business "some are born great, others have greatness thrust upon them." The bees were thrust upon me, that is, a swarm came and settled on a lilac-bush in my front yard, August 5, 1899. I now have 9 colonies in my cellar in Danzenbaker hives.

I see the question is asked, "Do bees hear?" If they do, I should think that some one who is good with the microscope might find their ears. They seem to have good, large eyes, anyway. D. M. HANSON.

Marathon Co., Wis., March 7.

Loss in Cellar-Bees—Tongue-Reach

While looking over the back numbers of the American Bee Journal, I found a promise above my name to report later on, matters referred to therein (see March 28, 1901, page 204).

Having swept up what seemed to me an excessive amount of dead bees, I began with the middle of January to measure and record the amount, and I find by referring to the memorandum that from the 70 colonies, from Jan. 10 to April 3, 83 quarts of dead bees were swept up and 32 hives were spotted, and here I find the memorandum defective; I failed to note how many of the 70 colonies came out alive, and built up into good shape for the honey-flow. But they did better than I supposed they could. I think about 10 died, but many of the 70, as well as those outside, were rather weak in bees.

If you will refer on page 469, for July 12, 1890, you will find that for 100 colonies for 4 months in the cellar, Prof. A. J. Cook says, "from 2 gills to 4 quarts;" G. M. Doolittle, "from a peck to one bushel;" Dadant & Son, "half a bushel or more;" C. C. Miller, "perhaps a bushel," Eugene Secor, "two bushels." This estimate is on 4 months for 100 colonies, while the 83 quarts from 70 colonies is only a little over 2½ months. Had the time been 4 months and with 100 colonies instead of 70, the same death-rate would have made a total of almost 6 bushels.

Do you wonder that I felt blue?

Now as to the length of tongue-reach of the bees, the measurements were in one-hundredths of an inch, and I found some as short as 17-100, placing the points of the mandible even with the base line, then stretch the tongue full length and let it contract what it would as it lay on the rule, under the glass, and then count the 100th marks. The most of my colonies showed 19 to 22½ 100ths. I shall continue to investigate and try to have others measure bees from the same hives and compare notes.

The year 1901 was cool and extremely wet in the spring; all the early bloom was full of nectar. Clover came out fine and gave a grand flow until the drouth came on, when we had a month without any flow. Drones were all killed, and but little brood. With the later rains came a good flow from heartsease, etc., which continued until frost, giving the bees abundant stores for winter and leaving us nearly 2 tons for our trouble.

We have 98 colonies in the cellar and 17 outside, having lost 2 outside in chaff hives; those outside had a good flight Feb. 23, the first since Jan. 6.

I have taken up 22½ quarts from the cellar-floor so far, and I don't think there is a hive spotted now. The temperature has run from 45 degrees to 52 degrees, the latter making them restless. We keep the window open part way all the time, excepting when it is very cold, and give them a good airing occasionally. THEODORE S. HURLEY.

Tama Co., Iowa, Feb. 24.

30 DAYS FREE TRIAL

You do not know what you can do with an Incubator until you try it. Here is a $10 HAWKEYE INCUBATOR which we send on thirty days' free trial. It has all our late improvements, three walls, patent copper pipe heating system, safety lamp, nursery, perfect regulator, etc. Catalogue free. Send 10c for book and a year's subscription to leading poultry paper.

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Ask for our price-list and testimonials.

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This means that we ship anywhere our 60 Egg Copper Tank "All Right" Incubator on FORTY DAYS FREE TRIAL and charge $8.00 for it only when the customer is satisfied. Absolutely the best 60 egg machine on the market at any price. Send for our free poultry book, "All Right." (Western orders shipped from Des Moines, Ia.

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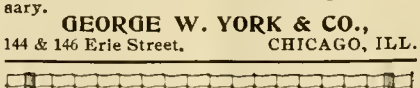

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75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

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13Atf SHENANDOAH, Page Co., Iowa.
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Wintering in a Bee-House.

My 75 colonies of bees are wintering well in a bee-house above ground at a temperature of from 32 to 38 degrees, for almost the entire winter of 3 months past, in which I have wintered my bees for the past 3 years, and not losing a single colony at that temperature. My bee-keeping dates back for 10 years, and I have been experimenting on every kind of way of wintering bees, and I have settled down to the fact that good stores have more to do with it than anything else. Give me white clover and basswood honey and I will winter them at 30 degrees the entire winter. Let some of my American cousins in the South read this and they will call me a fool, but I do not care so much when I bring my bees out fine and strong.

When I put them out in the spring I shove them for all they are worth to brood-rearing, and by my manipulation I keep down swarming and make my increase by dividing. If there is honey in the fields I will get it all. I run all my bees for extracted honey, as I find it pays the best here.

In my next I will describe my summer work in detail, and the kind of a house I use.

MICHAEL MADOEN.

Russell Co., Ont., Canada, Feb. 23.

Wintering Nicely.

My bees are wintering nicely so far, out-of-doors, and they were all flying nicely yesterday (March 5).

I have 8 colonies of fine, healthy bees. I think if I have 15 hives with Langstroth frames and supers I shall be supplied.

I am more anxious for comb honey than I am for increase of bees. I do not care to have them swarm much.

Stephenson Co., Ill. C. S. SPALDING.

Hiving Bees.

In the first place I will tell how I make the catcher. I get a pole with 2 prongs, and nail on the third prong, then take a small barrel-hoop, and nail it in between the prongs. Then sew around the hoop mosquito net, double, to hang down as far as I want it to go, then sew it up and gather the bottom and draw it tight together; that makes it complete.

When a swarm comes out and settles, I take the hive, bottom-board and cover to the place where they have clustered. If they have clustered low I set the hive on the ground; or if they are low enough, put the hive on a bench or anything; then I put on top of the hive an empty super and shake them right into the super. If they go in in too much of a bunch, I take a twig and stir them over the prongs; then if they settle on the sides I brush them down and put on the cover a little while, and get the canvas ready, then take off the cover and super. If they have not all gone down I lift off the super and stand it in front; they will soon march in. I spread on top of frames the canvas and put on the cover, and put a little something under one end so as not to crush any of them. I leave them until night where I hive them, then carry them to the place I want them to be.

If they have settled too high to do as I have said, then I put the catcher up right under the cluster so they will fall into it, then jar them in it and then take hold of the bottom of the netting and turn the catcher over the hive and turn it inside out, right in the super, and empty them all in and shake them off. If a lot go back I repeat the operation until I get the most of them. Then I do the same as with the others.

My bee-hat is a common straw hat with netting around the brim. If they settle low I don't always put it on. I do not use gloves, or any smoke. My bees are very gentle when they swarm. I can pick out any leaves or anything that goes in when I shake them in. It is very rare I get stung when hiving

them. If I do it hurts scarcely at all. I don't mind a sting as much as a Jersey mosquito bite, and the latter swells more than the bee-sting. I have gotten over that. I would rather work with a colony of my bees than with an old, cross, [illegible].

My bees know my voice; that has been proven in two instances. After they had gone into the hive for the night, at one hive was a hibiscus in bloom. Two different times some of my friends and I were standing by the hive and the plant looking at the flowers, and the hive was not touched; the bees came out on the alighting-board thick. I talk to everything I have; my pigeons are so tame they will fly on me when I go in where they are.

SARAH GRIFFITH.

Cumberland Co., N. J., Feb. 26.

CONVENTION NOTICES.

Chicago.—The next meeting of the Chicago Bee-Keepers' Association will be held in the Briggs House, Chicago, April 3, 1902, afternoon and evening. A full attendance is desired, as important business comes before the Association. Let all come and enjoy a good social time, and banquet in the evening; 50 cents a plate. The ladies are especially invited to be present, and bring their fathers, husbands and brothers. Dr. C. C. Miller has promised to be present.

HERMAN F. MOORE, Sec.

Utah.—The Utah State Bee-Keepers' Association will hold its annual convention in the City and County Building, Salt Lake City, April 5, 1902, at 10 a.m. This promises to be an interesting convention. All are invited. It is desired to form an exchange for the protection and benefit of our bee-keepers. Come and aid a good cause. It is expected that every county will be represented.

J. B. FAGG, Sec.

E. S. LOVESY, Pres.

BEES FOR SALE!

50 good, heavy colonies in 8-frame, dovetailed hives, well painted; most of the bees show Italian markings. Prices: Single colony, $6.00; 5 or more, $5.50 each. They are located within 12 miles of Kankakee, Ill. Can be shipped April 1. Address,

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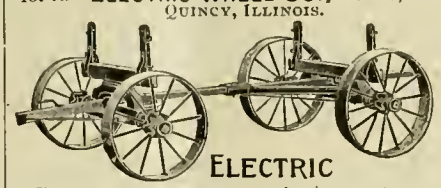

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Where to Buy Seeds.—Many seed catalogs are a disapointment. Too often a gorgeous exterior simply covers poor paper and worse printing, to say nothing of the extravagant language used in exploiting some alleged novelty. The Buckbee catalog is a different kind of a book. True, it has a handsome cover, but it is only in keeping with the unusually high character of the inside pages which are printed on fine, highly finished book paper which makes a beautiful and readable page. If this was Mr. Buckbee's first year in business instead of his 26th, this catalog would give him a great start. As it is, it will make him thousands of new customers and friends. To be one is to be the other.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 19.—There is continued depression in the trade owing to light output on the part of retailers and the desire on the part of those having stock on hand to dispose of it. The past two weeks have noted a further decline in price of comb honey, with the exception of basswood, which is scarce and wanted at 2 to 3 cents above any of the other white grades; it now brings 14@15c; alfalfa and other fair white, 10@13c; ambers, 8@10c. White extracted dull at 5¼@6½c; ambers, 5¼@5¾c; Southern and dark, 5@5¼c. Beeswax scarce at 30c.

R. A. BURNETT & CO.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.

THE FRED W. MUTH CO.

ALBANY, N. Y., Feb. 21.—Our market has not been so empty of comb honey in a long time. Fancy white comb, 15@16c; No. 1, 15c; dark and buckwheat, 13@14c. Extracted, buckwheat, 6c. Beeswax, 30c.

H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c: Florida honey, in barrels, 6@6½c.

BLAKE, SCOTT & LEE.

DETROIT, Dec. 20.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

CINCINNATI, March 7.—The general tone of the honey market is lower. Water-white comb honey sells from 14@14½c; it is hard to obtain 15c for extra fancy. Extracted has weakened a little, and sells at 5@5½c; fancy, from 6@6½c.

C. H. W. WEBER.

NEW YORK, March 8.—Comb honey is now pretty well cleaned up, and what remains on the market is nearly all fancy and No. 1 white honey. The demand is fairly good at following quotations: Fancy white, 14c; No. 1, 13c; No. 2, 12c. Extracted remains dull at unchanged prices with plenty of supply. Beeswax firm, 29c.

We have just received the first large shipment of comb honey from Cuba; some in tall sections, packed 20 combs to the crate and some in square sections packed 32 combs to the crate, glass front on one side, plain, no-bee-way section. The honey was packed in shipping-carriers, containing 8 of the large and 9 of the small crates respectively, and arrived in first-class condition. The flavor of this honey is very fine, and as to the quality—some of it is fancy white, while others is of a yellowish tint.

HILDRETH & SEGELKEN.

SAN FRANCISCO, March 12.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

While spot stocks are of rather light volume, holders show more inclination to unload than they did a month ago. Although quotable values are without marked change, concessions are granted to buyers which would not have been thought of at the beginning of the year. A large proportion of the honey now offering is comb of medium grade.

WANTED. **EXTRACTED HONEY**—either large or small lots; parties having same to offer, send samples, and best prices delivered at Cincinnati, Ohio. We pay cash on delivery. THE FRED W. MUTH CO., 10Atf Front and Walnut Sts., CINCINNATI, O.

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Tip-Top Glass Honey-Jars

The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.

If you try them once you will likely use no other kind of top or sealing arrangement for honey jars.

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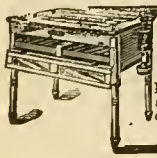

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Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.
ROOT COMPANY, Medina, Ohio.

GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market. J. B. MASON.
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.

M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.

THE A. I. ROOT CO.,
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☞ **GEORGE W. YORK & CO.,** 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., APRIL 3, 1902.

FORTY-SECOND YEAR
No. 14.

WEEKLY

APIARY OF JOHN H. BLESSING, OF LINN CO., IOWA.
—(See page 212.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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DEPT. EDITORS — Dr. C. C. Miller, E. E. Hasty.
SPECIAL CORRESPONDENTS — G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

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The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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Red Clover Queens
FOR 1902 FREE!

Long-Tongue Variety—Warranted Purely Mated

We have arranged with the queen-breeder who furnished Long-Tongue Red Clover Queen for us during the season of 1901, to fill our orders this season. Although fully 95 percent of the untested queens he sent out were purely mated, this season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most excellent reports from the queens we supplied last season. And this year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

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In order that every one of our subscribers who wants one of these Warranted Queens this season can easily earn it, we will book your order for one queen for sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00; or for sending us *one new* subscription and 30 cents more (or $1.30), we will mail you a queen; or send us $1.60 and we will credit your own subscription for one year, and mail you a warranted queen.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

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Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

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The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., APRIL 3, 1902. No. 14.

Editorial.

A Large Edition of this number of the American Bee Journal will be mailed, some of the copies going to bee-keepers who are not now subscribers. We trust they will be so well pleased with it that they will want it regularly hereafter. Only $1.00 will pay for it for a whole year—52 weeks—52 copies! It ought to be a good investment to any one who wants to make anything out of his bees.

The Chicago Convention Report is begun this week. While it has been some time since the meeting was held, it will read just as well as if it had been published sooner. We preferred to give place to the proceedings of all the other conventions first, and let our own local meeting come last. It will be a good report of a good convention, and will probably run in installments every week for two months or more. It was the best convention ever held by the Chicago Bee-Keepers' Association.

An Attempt to Outlaw Sweet Clover, says Gleanings in Bee-Culture, has been made in Ohio, and if Ohio bee-keepers are alive to their interests they will at once write to their Representatives and Senators urging the defeat of House Bill 598, which classes sweet clover among noxious weeds, and directs that township trustees shall cut it down whenever complaint is made. It is refreshing to know that at the Ohio Agricultural Experiment Station the Director is such a man as Prof. Thorne. Here is a letter from him to A. I. Root:

My Dear Sir:—If you find any serious attempt to have sweet clover declared a noxious weed, please let me know. I should consider such a declaration about as wise as one to call red clover such a weed, and will fight it with all my might. I was one of the first to call attention to the peculiar habit of this plant of growing on soils where no other plant will thrive, a little article of mine on this point having been published as far back as 1877, and quoted throughout the range of the agricultural press. Yours truly,

(Dic. L.) CHAS. E. THORNE, *Director.*

The Colorado Foul-Brood Plan of managing so as to kill it out and at the same time get a crop of honey by shaking off nearly all the bees upon frames filled with foundation, was copied some time ago from the Rocky Mountain Bee Journal. Editor Hutchinson says it is really the Heddon method of transferring, and his advice that the work should not be prematurely undertaken deserves strong emphasis. He says:

I might say, in a few words, that the old hive and its combs of hatching brood should be managed almost exactly the same as would the hive of a colony that had swarmed. In short, this method is nothing more or less than forced swarming, and the work should not be done until the colonies are nearly ready to swarm — perhaps some of them *have* swarmed. To attempt it too early, before the colonies are populous, the weather warm, and plenty of honey in the fields, would be disastrous.

He further says that the plan is really swarming, with the advantage that the swarming is done when *we* want it rather than when the bees want it, and quotes H. R. Boardman—one of the most reliable practitioners—as following the plan in his outapiaries to solve the swarming problem. "He visits his out-yards about once a week, and every colony populous enough to swarm is thus 'swarmed' by the shaking-off process."

With regard to disposal of the brood taken away, enough bees are left to care for the brood, which is put upon a new stand, and Mr. Hutchinson suggests that after all brood is sealed the queen-cells should be destroyed and a cell of choice stock be given.

Wax-Worms and Basswood.—It was given out in Gleanings in Bee-Culture that basswood was the proper lumber for top-bars, because wax-worms would not burrow in it as they do in pine. Dr. Miller replied that basswood would warp and twist too much to be used in bee-hives, and later he says he has found unmistakable proof that wax-worms bore into basswood the same as into pine.

Ventilation of Bee-Cellars is a topic that is being ventilated in Gleanings in Bee-Culture by T. F. Bingham and G. M. Doolittle. The former advocates a ventilator 16 inches square, while the latter seems to think little or no ventilation is needed. "When doctors disagree," etc.

Bee-Keeping in the United States.—The Census Bureau, on March 21, issued a complete report showing that for the country as a whole, on June 1, 1900, there were 707,261 farms keeping bees, substantially one for every eight farms. These farms reported 4,109,626 colonies, valued at $10,186,513, averaging a little less than six colonies to each farm reporting, says the Washington Post. The twelfth census is the first to report the number and value of bees, or the number of farms reporting them.

During the year 1899, there were produced 61,196,160 pounds of honey and 1,765,315 pounds of wax, of an aggregate value for the honey and wax of $6,664,904, or $9.42 for each farm reporting the same. Of this value, 35 percent is from the North Central, 12 percent from the North Atlantic, 15 percent from the South Atlantic, 23 percent from the South Central, 14 percent from the Western States, and .1 percent from Hawaii. The products of Hawaii were 96,870 pounds of honey and 1,720 pounds of wax.

Of the States reporting honey, Texas reports the largest quantity, 4,780,204 pounds. California reports the second largest quantity, 3,667,738 pounds, and New York the third largest, 3,422,427. The counties showing the heaviest production are Fresno, San Diego, and Tulare, of California, and Tompkins, Cayuga, and Seneca, of New York.

We imagine that the reported pounds of honey, and also of beeswax, are far below the actual production. We think perhaps 700,000 farms where bees are kept must be somewhere nearly correct. Perhaps by the time the next census is taken more reliable apiarian statistics can be had.

The British Standard Frame is 14x-8½—not quite three-fourths the capacity of the Langstroth—and the British Bee Journal is emphatic in the opinion that an increase of size would be a backward step. Ten frames in a hive is considered about the right thing, that being about the same as 7½ Langstroth frames. There is, however, a controversy starting in the British Bee Journal as to the advisability of a change in frames. F. W. L. Sladen says:

When I was in America I was surprised to see the great diversity of sizes of frames used, and all were claimed by their advocates to be better for their purpose than any others.

Influence of Nurse-Bees.—F. B. Simpson—the man who is writing such an interesting series of articles in the Bee-Keepers' Review concerning the breeding of bees—thinks there must have been 'some very careless reading on the part of the American Bee Journal to allow it to say that Mr. Simpson inclines to the view that a changing of nurse-bees might produce a queen very different from what she would have been had her own sisters been the nurses. The carelessness, so far as there was any, was not in reading but in writing. It is true that Mr. Simpson inclines to that view, but he is far from being strongly inclined, and it would have been much better to have said that he inclines very slightly to that view. So far from taking the ultra view that some have taken, he expressed the belief that the influence of the nurse-bees "is undoubtedly extremely slight in comparison with the hereditary properties

of the combination of the germ-cell with the sperm-cell."

He quotes with astonishment the remark that "if the nurse-bees have as much influence on growing royalty as some have urged, it ought not to be difficult to prove it by a single exchange of eggs." If Mr. Simpson is familiar with European bee-literature, he must know that that statement is true, and if he will read again he will see that in making it there was no reference to him.

It may in turn be in order to ask whether it was careless reading or writing that allows Mr. Simpson to say: "Suppose that the editor of the American Bee Journal were correct in expectations, and also that there could be a *marked* difference in each generation, due to nurse influence." There is nothing on page 50 to show that there was any expectation whatever on the part of the editor of any change being made by a change of nurse-bees, although there is a possibility that such a thing may exist, but if it does, Mr. Simpson is no doubt correct that such a change must be very slight.

It seems that none of us have yet reached perfection, either in the art of expressing ourselves or deciphering the meaning of others, but with the practice of a little patience we may easily come to an understanding.

California Reports of late date seem to show that prospects for a honey crop are not so gloomy as formerly supposed.

Salt the Ants if you want to drive them away, says Frank Gilmore, of Connecticut. He says he has proven by experience that if salt is sprinkled wherever they are they will leave. If little red ants annoy the good housewife, put a tablespoonful of salt in a teacup ful of water, dissolve well, and then pour it around where the ants enter.

This is such an easy remedy to apply, that any one who has both salt and ants can soon test the matter. If it is as effective as Mr. Gilmore says it is, a good many bee-keepers will want to extend to him a big vote of thanks.

Cane vs. Beet Sugar.—For years the British Bee Journal has strongly urged that those who feed sugar to bees should be sure that cane and not beet sugar be used. If that journal is right—and it is possible it is—we are in a bad case in this country, for there is probably not one bee-keeper in a thousand who can tell beet sugar from cane, and beet sugar, which formerly formed only a small portion of the sugar used, forms now the larger part, and is constantly on the increase.

Tongue-Length and Tongue-Reach.—In Gleanings in Bee-Culture Prof. C. P. Gillette calls attention to the mistake that has been made in deciding from his experiments that there is no direct relation between tongue-length and tongue-reach, in spite of his saying: "I believe, for practical purposes, it may always be considered true that the bee with the longest tongue has the longest possible tongue-reach." It is true that according to his table of measurements it appears that tongue-length and tongue-reach do not correspond, but he does not consider the measurements of reach as reliable as he does those of length, and says: "I place no value whatever upon my measurements of tongue-reach except to show how variable and unreliable such measurements are."

Weekly Budget.

THE EPWORTH HERALD, with its nearly 120,000 circulation every week, kindly published the item on "Comb Honey Not Manufactured," in its issue of March 29, which is its annual Easter number, and a beauty. The Herald has the largest circulation of any religious young people's weekly, being the organ of the Epworth League of the Methodist Episcopal Church. Its able and popular editor, Dr. J. F. Berry, is one of our very intimate friends, and would do all he could to aid bee-keepers in getting the truth about honey before the people.

BEE-HOUSE OF L. J. CLARK.—When sending the picture shown on this page, Mr. Clark wrote as follows:

I enclose a view of my bee-house, part of my apiary, and rear view of my residence. I was born in Vermont, Aug. 21, 1840; came to Minnesota June 1, 1858, and have grown up with the country. When 15 I enlisted to fill a vacancy in the 1st Minnesota Volunteers, but on account of my age, and the War coming to a close, I was not sent South. I was married when 23 to Lucie E. Balch, of Lockport, N. Y., with whom I lived happily for 17 years, when death claimed her, and since that time I have remained a widower. The two girls on the back porch are my daughters, May and Allie, aged 13 and 15 years.

Ever since I can remember I have taken much interest in bees, and when about 10 years of age had, at one time, about 7 colonies of bumble-bees, and enjoyed myself very much in watching the occasional bee that would come and go.

The year that I was 16, in June, I paid $12 in hard cash, that I had earned by working out, for a colony of young bees in a very plain, unpainted box-hive, and I got up at 1 a.m. and went 12 miles so as to get there before the bees were out in the morning. Since that time I have had more or less bees the most of the time, although being engaged in other business—milling, farming, etc. I have never made a specialty of bee-keeping.

I have lately secured a farm on the Mississippi river bottoms, that I think is a good location, especially for fall honey, so I expect to increase my apiary largely in the near future. At the home apiary, shown in the picture, our surplus honey nearly all comes from white clover. L. J. CLARK.

APIARY OF JOHN H. BLESSING. — On the the first page is a picture of the apiary of Mr. Blessing, concerning which he has this to say:

My apiary consists of 29 colonies in Langstroth and dovetailed hives, all 10-frame size. I began keeping bees about nine years ago, and was very successful until last year, when they didn't average over 20 pounds per colony. The hot winds killed all of the white clover, and there was no buckwheat sowed; but I am not discouraged yet, as I have hopes for better things.

My bees are all hybrids, but they are great workers when there is anything to do. They had the swarming-fever last spring, and I had quite a time with them.

January 9, 1902, I noticed the bees were flying quite freely; I had placed a bucket on a bench that had some rye and oats ground together, and the bees were very busy carrying it to their hives. I had intended this rye and oats for the pigs.

I have always wintered my bees successfully on the summer stands. The stakes which can be seen in the picture behind the hives are for holding straw. After nailing the poles to the stakes I pack straw in around the hives.

I read the "Old Reliable," and couldn't get along without it. I also have "Langstroth on the Honey-Bee." JOHN H. BLESSING.

BEE-HOUSE AND RESIDENCE OF L. J. CLARK, OF WINONA CO., MINN.

HAVE THE BEST TOOLS.—Editor Hutchinson has this to say in the Bee-Keepers' Review, on the subject of tools for the apiary:

It is all right for a man with limited capital to put up with make-shifts. In fact, he is *compelled* to or go in debt for them. *Get improved tools and machinery just as fast as the profits of your business will justify the expense.* To squeeze along with imperfect tools, when the profits of your business will allow the purchase of good ones, is the *poorest kind of economy.* Don't let the habit of putting up with poor tools become so fixed that it can not be changed when conditions change. Another thing: Watch the conditions; study them closely; they may change so gradually that you do not realize the change.

Fortunately, bee-keepers require new tools, and there is little excuse for their using poor ones. The largest factor in the production of honey is *labor*, and anything that tends to *lessen* this factor should be given the most thoughtful consideration.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

The convention was called to order by Pres. George W. York, at 10:30 a. m., after which T. E. Hogge offered prayer.

Pres. York — As president of the Chicago Association, I am delighted to find so many here to begin with. We will now listen to the reading of the minutes of the last meeting, and also the financial report. We will do all the business up first, or at least most of it, before we start on the questions.

Sec. Moore then read the minutes, and also the financial statement, both of which were approved.

Pres. York—It affords me much pleasure to introduce to the audience Dr. C. C. Miller.

Dr. Miller—How do you do, audience?

Pres. York—I also want to introduce Mr. C. P. Dadant.

Mr. Dadant—Mr. President, I am a little bit ashamed.

Pres. York—You needn't be ashamed; you are good looking.

Mr. Dadant—I will be doing lots of talking anyway, so I will say nothing just now.

Pres. York—Mr. Green and Mr. Clarke will now distribute the paper slips for questions. Write one question on a slip and they will be passed at different times so we will have enough to go on with. You will have a chance to ask all the questions you wish before we get through. I would like to say a word about the membership while you are writing the questions. Our dues are $1.00 a year, which dollar pays not only your membership for the Chicago Bee-Keepers' Association, but also the dues in the National Association. I would like to have every one become a member of the Chicago Bee-Keepers' Association. I hope you will be very prompt about writing questions, so that we will have them to go on with. Dr. Miller, I know, is just aching to talk.

Dr. Miller—I do want to say one word. I want to congratulate this Association on the plan of having the time not taken up with a lot of long speeches and papers.

Pres. York—Doctor, I think you had better sit down again.

Dr. Miller—Will you please keep still until I am done? Years ago, the pace was set in this very city by the old Northwestern, of having programs that were not programs in the ordinary sense of the term, and I believe now it is getting to be the common custom in all of the bee-keepers' meetings to have the time taken up largely in discussion. You know how it is; two bee-keepers get together, and the first thing they begin to talk about bees. They don't need any program. If I should happen to meet Mr. Dadant (that Frenchman, who got away, and came into this country in spite of all I could do) —if I should meet him, we wouldn't stop to discuss whether France or America is the best country, but we would begin to talk bees, and in this convention, by talking bees and having questions here and there, the time is put in profitably, and I don't know any reason why this Chicago Bee-Keepers' Association should not become a power; it is, I believe, and there is no reason why we should not have exactly the same meetings here as in the old Northwestern, and they were fine meetings, too, and I do know you can have a fine meeting here to-day.

Pres. York—I have just been looking over the questions, and have a lot of good ones. We will begin with an easy one. Listen to this:

"WHICH IS THE BEST HONEY?"

Dr. Miller—Bees' honey!

Sec. Moore—That question I am asked every day, and my answer uniformly is this: It is the honey that you like the best, that you are used to, and that is in California one kind, in Ohio one kind, and in Cuba another, and go on and give them the names of honey in those localities. You may think this is a very unimportant matter, but it isn't. It is clearly a case of what we are used to. There is no best honey. For the candy-maker one kind, for the cake-baker another kind, for the detective another kind, and the tailor another kind. I should say alfalfa. Take a vote.

Pres. York—How many think basswood the best? One.

Pres. York—Those who think white clover the best raise your hands? Eight.

Pres. York—How many think alfalfa is the best? Three.

Pres. York—How many think sweet clover is the best honey? Twelve.

Pres. York—How many think buckwheat is the best honey?

M. M. Baldridge—Buckwheat is the best honey for some.

Pres. York—How many think the California sage is the best honey? One.

Pres. York—How many think orange-blossom honey is the best? Two.

(Voice from audience)—Best there, but there isn't much of it.

Pres. York—How many know what alfalfa honey is, and have tasted it? Thirteen.

J. A. Green—You didn't hit my case. Sweet clover with fall flowers. I find that everybody who has tried it prefers a small amount of aster with sweet clover.

A Member—Just my experience; same crop and same experience.

Mr. Blunk—It suits this Hawkeye best, too.

Dr. Miller—I think there are two things in the case. In the first place there is, as the secretary has suggested, the prejudice of familiarity: and, then, you will see in the foreign journals, or in journals here, some one comes out and says, This is the best honey in the world. He honestly believes so. That's what he is accustomed to; that's what he likes. There are mixtures, sometimes, that are better than the pure article, and that sometimes makes confusion about it. Sweet clover was spoken of a while ago, and if there was any one honey that seemed to be spoken of enthusiastically it was sweet clover. I am not sure I know just exactly what the best sweet clover honey is, but I have had some and I have used a good deal of it, and had some I got for the pure article. If it was correct, then I don't like sweet clover. I have gotten what I supposed to be, and had good reason to believe was, a mixture of sweet clover with white clover. I think if I should say what honey I liked best of any I had ever sampled in my life, it would be the white clover flavored with sweet clover. The sweet clover alone, to me, has a disagreeable flavor and seems to me a little like this: You take the flavoring of vanilla and nearly every one likes it; but you overdose it, and put too much in your ice-cream—and it seems to me it is a little the same way with sweet clover. It has too strong a flavor, and there will be some that like it. I know people that like the taste of tobacco. The majority of people, I think, would say that the pure article of sweet clover isn't so good as if you have just enough of the flavor, and then it is a fine article. If you will allow the comparison, for two or three years I ate it without knowing what it was, and I called it vanilla flavor, and I think it was sweet clover.

Pres. York—There may be some in the room who are not bee-keepers, who misunderstand Dr. Miller when he said he believed that a mixture might be better than the pure article. He doesn't mean adulterated with glucose or syrup.

Dr. Miller—Not in the same way I would say pure Durham stock.

Chas. Clarke—As regards sweet clover honey, when it is properly ripened it loses all that taste that the Doctor speaks about. I think we will have some here this evening, possibly, in which you cannot find any of that taste, and I think it is a good deal the fault of the apiarist in taking the sweet clover honey right from the super, packing it and sending it to market. It has the taste you speak of, and it loses it when it has ripened thoroughly for six weeks. Sweet clover honey then will hold every customer it goes to, in place of white or alfalfa, or any basswood or other honey; but there are so few that seem to care about the reputation of sweet clover honey, and ship it right to market and get rid of it, the quicker the better. I never have lost a sweet clover honey customer. I never sell any comb honey until it has been thoroughly ripened, for six weeks or three months, and when you go into a room with three or four thousand pounds taken right off from the hives, I can't describe the smell, and in two or three weeks it will lose that and get the beautiful aroma of honey; but I think the alfalfa is really the cause of having so much trouble with adulterated honey on account of its very light flavor.

Dr. Miller—It is only fair to sweet clover for me to say, that in the samples I have tasted and eaten—and I have done it quite largely—that the taste seemed to me just as has been described—that it was raw, and not fully ripened, and it may be that I have not eaten any thoroughly ripened, extracted sweet clover honey, and if any one could give me a sample I would be very glad to sample some that was thoroughly ripened.

Pres. York—Send Dr. Miller a five-gallon can of it, prepaid!

Mr. Riker—I visited in Colorado this fall, in some sections where they raise sweet clover altogether, other sections alfalfa, and in others the two kinds mixed. Where they raise sweet clover people don't like it. Where it is pure sweet clover they can't eat it. It sickens them. They can eat a mess, but can eat very little of it. Of the alfalfa and the other there is no end to their eating it. The more they eat the more they want of it. That experience I found there. Since I have returned I have put extracted alfalfa honey on the market and am selling it to my neighbors. Every person that I have sold it to likes it. They can eat of that when they cannot eat of any other honey. Well, it seems to me that the alfalfa honey really is the best honey I ever had anything to do with. White clover comes next, but the pure sweet clover in the West, where I was this fall, and they told me it was pure sweet clover which smelled exactly as pollen smells, as they grew it, is pure honey there. The gentleman who has sweet clover honey must have some other honey mixed with it in order to make it good honey.

Mr. Clarke—That reminds me of the boy and the cake. You give him a very nice-flavored cake, and give him bread afterwards, and the bread doesn't go good: he likes the cake. My experience has been this: Where I have had a sweet clover customer you can't get him away with alfalfa. He is used to good-flavored honey, where sweet clover is properly ripened—(I am not talking about "green goods," taking off all the honey and selling it). You give him alfalfa and he will probably tell you that he had a lot of artificial honey. I meet with that everywhere, nine times out of ten, on account of the mild flavor of alfalfa, and the strong flavor of the clover. I don't say anything against alfalfa, because it is a beautiful honey, but it is the change from the strong to the mild which is the cause of the trouble.

Mr. Whitney—I would like to endorse what Mr. Clarke has said with reference to sweet clover. Of course, we have in our locality a sprinkling of white clover but not to any extent—largely sweet clover. I have never proved it finer honey in my life than I have this year, and it is nearly all sweet clover, but, as he says, it should be ripened. Mine was two months in a very warm room and I sold it all, most of it at 15 cents, and I haven't had a word of compiaint. There was very little of that strong, sweet clover taste that we get in the smell as we go through a patch of sweet clover. I am inclined to think, however, as the secretary proposed, that the honey that is the best is that which people like best; and I like sweet clover.

(Continued next week.)

Contributed Articles.

Transferring Bees—When and How To Do It.

BY G. M. DOOLITTLE.

A correspondent writes thus: "When is the best time to transfer bees? I have quite a number of colonies in box-hives which I wish to transfer, and I should like to know when this can be done to the best advantage. Can I do it as soon as spring opens? or would I better wait till the bees are securing honey from the fields? or wait till swarming-time? I should be pleased to have your answer through the American Bee Journal."

The transferring of bees from box-hives, or "gums," or from one style of frame hive to another, can be successfully done at any time of the year when bees can fly, if the operator understands just what is needed in the case; and it is with pride that I look on the man or woman who has ability enough to accomplish anything successfully which is necessary to do at a certain time, no matter whether such time is the most propitious or the most unpropitious. The person who can successfully transfer a colony of bees in early spring, when robber-bees are prowling around, is to be admired; yet, unless there is some urgent reason why a certain thing should be done at a certain time, it is always best to wait about doing anything till the time when everything is the most conducive toward a successful outcome.

As I consider it, there are two seasons of the year when bees can be transferred to the best advantage, the first being fruit-bloom, and the other 21 days after a prime swarm has issued. During the first part of fruit-bloom the scramble after new honey is such that one is not liable to be annoyed by robber-bees, and at this time there is very little honey in the combs to cut through, such honey making a sticky mess of everything used during the operation. Again, as the bees are getting their first honey, they are eager for something to do inside the hive at night, hence will repair all mutilation of the comb, fasten the same in the frames, etc., much more rapidly and readily than at any other time.

With all the above being true, fruit-bloom brings the most auspicious time for transferring bees; but it has this drawback: As a rule, the bees have got under good headway rearing brood, and we shall find the combs half or two-thirds filled with the same, so that in cutting them to fit the frames, much brood must be sacrificed, as well as displaced in the brood-nest, owing to our not being able to secure all in the shape in the new hive which it was in the old one. All of this has a tendency toward a loss of bees, and as all of the brood that is sacrificed at this time would become bees of the right age to do the best labor in the honey-harvest, had we left the transferring till later on, we can see that a loss must be made by doing our transferring at this time of the year, with all colonies except those which have little brood in their combs. For this reason I prefer to wait till 21 days after the prime swarm went out. However, even though some brood is lost, fruit-bloom is a much better time to do our transferring than any other except 21 days after swarming, and many think that through transferring in fruit-bloom, the bees are incited to enough greater activity to make good all loss that comes through destroying so much brood by cutting through it.

At the time of 21 days after the prime swarm has issued, all of the brood will have emerged from their cells, except perhaps a few drones, and the young queen will have only just begun laying, or have laid only a few days at most—not long enough so there will be much but eggs in the combs—so that all we have in our way at this time is the honey which the combs may contain, which will not be a great amount if the colony has been at work in the sections; for as soon as the young queen begins to lay the honey is quite generally hustled out of the brood-combs, up into the sections, to give room for the eggs necessary to yield the bees for the future prosperity of the colony later on in the season. And as this comes at a time of the year when bees are generally securing all the honey they want, and the weather is always warm, so that there is no danger of brood or bees becoming chilled, no matter how slow we may work or where we are, we can now do our work right in the bee-yard, this being much more convenient and giving a better prospect of success all around.

So far, I have been looking at the matter from the standpoint of the old way of transferring, as it is styled. If we should desire to use the Heddon or modern plan of transferring, by driving out the bees and hiving them in a hive filled with comb foundation, this is just the time, and the only time in which it can be done successfully, for the combs are free from brood, so only one operation is needed. Otherwise we must first drive out a swarm and hive it in a hive whose frames are filled with foundation, taking our chances of getting out the right proportion of bees, and leaving the right proportion in, and then wait 21 days till the bees have all emerged from the cells, at which time there will very likely be a honey-dearth on, so we will be troubled with robber-bees, while the young queen, in this case, will have already begun to lay.

When using the Heddon plan we do not have to fit any combs into the frames, but the old combs are cut out full size from the old hive, and when we so work, at the time above advised, there will be no brood in the combs to hinder, and nothing to prevent our taking the old hive right to the solar wax-extractor and doing the work right beside it, so that in an hour or two we can have both the honey and the wax from the old hive in shape to use, thus saving time and delay which would result at any other time of the year.

Onondaga Co., N. Y.

Winter Bottom-Board for Outdoor Wintering of Bees

BY H. DUPRET.

Fig. 1 is the winter bottom-board, with the movable parts shown separately. *a* is a 3½ inches thick combination bottom-board made of three layers nailed together; the middle one *x*, being 1½ inches thick, in order to provide a 1½ inch space under *b*, the bottom-board proper (as in Fig. 2). Length and widths to suit the hive which is to rest on *R*, *R*, *R*.

b is the movable bottom-board proper. When in place, it will rest on 2½ inch blocks *t*, *t*, nailed to the floor *V*, in the rear; and in front, on another longer movable block *k*. Two or three holes in *h* serve as entrance-holes under the frames.

I usually leave only one open at a time. In preparing this movable board *b*, provision must be made against warping, by nailing cleats to both ends; an allowance of about ¼ inch must also be made in the width of *b* (as in *K*, Fig. 2); otherwise dampness in the spring-time will so extend the width that the boards will no longer be movable. Meanwhile the gap is closed by a thin board *c*, placed under and resting in front

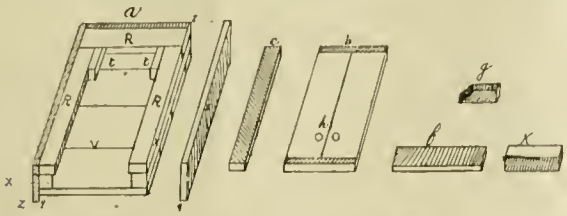


FIG. 1.—*Winter Bottom-Board for Outdoor Wintering of Bees.*

on a little block *d* (as in Fig. 2); a little roll of paper closes the hole which remains in front.

f is a thin board used as a sort of bridge over the front of the bottom-board *b* between the holes in the front end, to prevent sawdust or any other filling material from falling in *V*. It is not necessary to have it nailed. (See it in position Figs. 2 and 3).

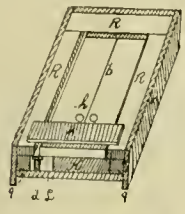


FIG. 2.—*Ready for use.*

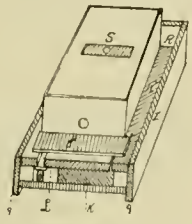


FIG. 3.—*With hive set upon it.*

k is the oblong block to reduce the width of the front entrance to suit the taste.

Z, *Z*, *Z*, are three thin boards to cover the sides of the combination boards; they must be of such width and so nailed as to provide a space under the whole apparatus, as at *g*.

I generally slip a piece of coarse paper over the inside floor *V* for convenience. Bees, in cleaning the hive, when the temperature allows it, drop the dead bees, etc., in *h*, over this paper, and it is easy for the bee-keeper to remove these dead bees by drawing the paper out, and replacing it, if it has become soiled. But late in February or March some colonies

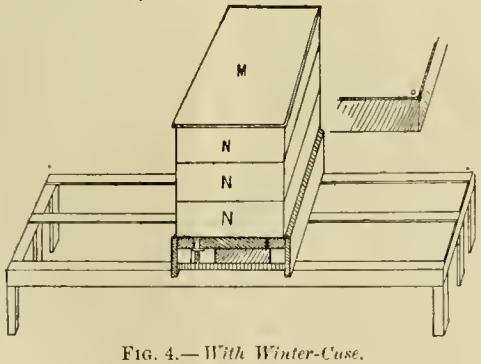


FIG. 4.—*With Winter-Case.*

will have accumulated dead bees over the movable bottom-board, under the cluster, to such an amount that it will be well to draw this bottom-board out: clean it and replace it inverted, which operation can be performed without arousing the bees much. This is the principal advantage of such a movable bottom-board. The others are: The entrance-holes *h* are never plugged by ice or dead bees; the severe winds never blow directly on these holes; neither do the rays of the sun strike on them.

Care must be taken not to make any of the movable parts (*b*, *g*, *k*,) too tight, for easy removing of them; for dampness causes them to smell a good deal. So these blocks (*g*, *k*,) should be a little less than 1½ inches thick.

g is used partly to sustain the movable bottom-board in front (inside), and is also placed near the holes *h* to provide a sort of ladder for the bees to climb up and down.

If robbers are troublesome in April or May, a strip of perforated zinc can be used in the front entrance.

Fig. 2 shows the whole bottom-board ready for the hive to be placed upon it. Although it might be used that way all the year around, I exchange it for the ordinary bottom-board some time in May, when I also remove the winter-cases.

Fig. 3 shows the hive in position. It does not lean on the movable bottom-board, but on the three sides of the upper layer, *K*, *K*, *K*.

s is my own "Hill's device," provided with an auger-hole very handy for spring feeding. I generally use a chimney feeder, covered with glass.

Fig. 4 shows the whole winter arrangement.

n, *n*, *n*, are the separate parts of the winter case; *m* is the

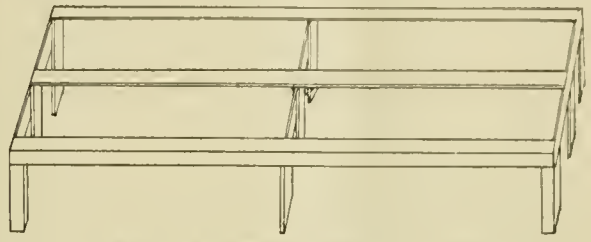


FIG. 5.—*Hive-Stand (to accommodate 3 hives with winter-cases.)*

This stand serves 3 purposes: 1. Convenience in handling frames 2. Keeping away rats and mice. 3. Protects against snow embankments.

zinc-board cover. The edges in each part of the case (also in *Z*, Fig. 1) are beveled so as to shed rain-water as in *o*, Fig. 4.

I use sawdust as most convenient for a filling-material; about 4 inches thick on the four sides, and as much as 7 or 8 inches on the top of the frames.

Fig. 5 is the hive-stand, all the year around.

Quebec, Canada.

An Experience in Wintering Bees in the Cellar.

BY C. DAVENPORT.

A year ago this winter I wintered about 150 colonies of bees in a basement or cellar that was only partly under ground, and besides the disadvantage of being only partly under ground it was so small that the hives had to be packed very close together and tiered up from the floor to the ceiling. There was no means of ventilation except by the door and two small windows. The temperature varied greatly during some severely cold weather; with both windows closed it would be as low as 38 degrees, and when it was mild, with both windows open at night, it would rise to 60 degrees. Toward spring, when the weather began to get warm, the temperature was even higher, and the bees became very restless and uneasy. They were clustered all over the front of the hives, and if the outside door was left open enough so there was light enough to see, the air inside would be literally thick with flying bees, and the results were about as bad as though a lantern was taken inside.

It became a serious problem how to get the bees on the summer stands. As soon as a hive was set out-of-doors all the bees clustered on the outside would take wing, and those inside would begin to pour out by the hundred as soon as the light struck the hive. I tried setting the hives on a large canvas, then wrapping this quickly around and over the whole hive before many bees could escape, but by the time the hive was carried to its stand most of the bees were out of the hive and in the folds of the canvas or cloth, and when this was removed there would be a cloud, in fact, practically all the bees that were not crushed in the fold of the cloth would be in the air without taking bearings or knowing where they belonged. Smoke only made the matter worse, that is, trying to smoke a colony after it was removed from the cellar. I came very near smoking the whole number in the cellar, but hardly dared to, for I was afraid if the whole air of the cellar was heavily charged with smoke that it might make the matter worse.

These first attempts at putting them out was during a few warm days the first part of March; the weather for a short time after turned colder, but the bees were becoming more restless and uneasy all the time, many colonies beginning to spot their hives badly. I would leave the

windows open and the temperature would go down to 40 degrees or so, but during the day the windows had to be closed to exclude the light, and the temperature would run up to 60 and 65 degrees even when it was quite cool outside.

Of course, with a larger cellar, or a less number of colonies in the same one, there would not have been such a variation in the temperature, even if it was partly above ground.

Another thing that was very unfavorable was that owing to the hives being crowded so close, I was unable to remove the great mass of dead and decaying bees that accumulated.

The colonies in the fall were very strong, and the loss of individual bees was from the first very heavy, so those of experience know what these conditions imply.

As soon as it became apparent that these bees could not he removed to their stands during the daytime, without great loss, I had been thinking about trying to take them out at night, but I had never had any experience in putting bees out at night, and could find but very little in regard to the matter in any books or journals I have, and this is the reason I am giving my experience in regard to the matter.

I have described how restless and uneasy the bees were, and I will say here, before beginning extracts from my diary, that if the temperature at night was not above 35 the bees made no effort whatever to fly when put out of doors even if it was quite light. When a hive was first put out the bees would set up a great roaring, but this gradually subsided, and what bees were clustered on the outside of the hive soon crawled in.

My plan was to put outside, near the door, as many hives as I intended to remove that night, and in one-half to an hour and a half, depending upon the temperature, the bees would be so quiet that the hives could be removed to the yard, a number of rods distant, on a wheelbarrow, without closing the hives. Here are some of the records:

March 18—Carried out 25 hives this evening; temperature 28 above zero.

March 19—It snowed all day; temperature up to 38 at noon. Many bees flew out and were lost in the soft snow.

March 20—Snowed and blowed all day. Temperature 16 above zero; many bees came out of the hives and died in the soft snow.

March 21—Temperature up to 44 to-day. The bees flew quite freely, but many were lost in the snow.

March 22—Temperature up to 46. Cold north wind; bees flew considerable, but many were chilled and lost; snow is about gone.

March 23—Temperature up to 60 in the shade. Bees had a good flight. Tried to remove some from the cellar during the day, but gave it up; carried out 50 colonies this evening.

March 24—Rainy; cold, raw wind. Temperature up to 43 at noon. Thousands of bees from each hive carried out last night flew and were chilled to death. Many, or perhaps nearly all that flew or crawled out of the hives, had bloated, distended abdomens filled with pieces that they seemed unable to void; whether this would have been the case if they had been put out on a warm day I am unable to say, but my opinion is that a large part of them that died to-day would have died just the same, only farther away from the hives, if the day had been ever so warm. One thing certain, they cannot stand such daily mortality very long, or they will all have perished.

March 25—Another rainy, cloudy day. Temperature was up to 46 for awhile. The bees from 50 hives carried out last flew freely, and I think there is no doubt but what great numbers, perhaps thousands, from each hive were chilled and lost that would not have been had the day been warmer. I fear a few more days as unfavorable as yesterday and to-day will cause the loss of the whole 50 colonies. I shall let them remain out now whatever the weather and outcome are. It would be hard to imagine two more unfavorable than yesterday and to-day were; if it had been a little colder the bees would not have left the hives so freely. On the other hand, if it had been a little warmer, or even at the same temperature, if the sun had shone they would not have been chilled.

The bees in the 35 hives carried out first have not attempted to fly since the 23d. I think they will be all right unless the spring should prove very unfavorable.

March 26—Cloudy and colder; no bees flew to-day. The ground is freezing to-night and it looks like snow.

March 27—Clouds and sunshine to-day, with cold wind from the north. Temperature up to 42 for awhile during the middle of the day. Many more bees from the 50 hives, carried out last, flew and were chilled to death in the cold wind. The bees from the other hives did not fly.

March 28—Clear to-day; temperature up to 40 for awhile; cold wind. Thousands of bees from the hives carried out last flew, and many were chilled to death. The rest of the bees in the basement are getting very uneasy. Great numbers are leaving the hives and dying daily.

March 29—Fair most of the day; temperature 42 for a short time; cold wind from the east. Large loss of bees again from the 50 hives carried out last. It is evident that these bees are dying for want of a flight, but the condition they are in, a flight means death during such weather as there has been since they were put out. It must be there is considerable hatching brood in those hives or they would, after suffering such great losses daily, be weaker than they appear to be. This evening they all, with few exceptions, responded quite strong and brisk to "taps" on their hives. Three are about gone and another one is very weak. I think most of the rest would pull through if they could have a good flight soon.

March 30—Snowed some last night and this forenoon. Temperature 26 above zero; no bees left the hives.

March 31—Temperature up to 49 for awhile; no wind. The bees in all the hives out-of-doors flew freely. Considerable loss of bees again. Carried the rest of the bees out of the basement this evening.

April 1—Fair; still [illegible] temperature up to 55 in the shade.

I will not quote from the diary any farther just now. The spring turned out to be fairly favorable; the loss among this lot of bees was much less than I expected it would be. There was no colony that died outright. A few colonies spring-dwindled, 3 or 4 lost their queens during the winter or carly in the spring, before they had commenced to lay, and a few colonies deserted their hives soon after they were put out.

As I surmised, almost all of these colonies had commenced to rear brood in the cellar; many of them had an amount nearly equal to a whole frame of hatching brood, and it was this early-started brood-rearing that saved them. The old bees died off very rapidly after they were put out. The majority of the colonies got down pretty weak, but they built up fast.

If the spring had been late and cold the loss from spring dwindling would undoubtedly have been great. There were 148 colonies put into this basement in the fall, and by referring to my record-book I find that there were 119 colonies in this yard the first of May recorded as strong to medium, and 4 weak ones. As I said in the first part of this article, the colonies were all very strong in bees in the fall. There was a late fall flow so that brood-rearing was kept up late, and they had plenty of good, sealed stores, but there was another matter that might be expected to be against favorable wintering even in a good cellar; perhaps I can best explain by quoting a brief extract from my diary again:

Dec. 16—Finished putting the bees in to-day; they have not had a flight since the fore part of November; left them all out in hopes that they would have another flight, but there was no day warm enough. There were no very bad storms or severe cold; a few nights it was down to zero or a little below.

The rule is to put bees in within a day or so after they have had a good flight, but these were out in the yard for 5 weeks or more after their last flight.

Considering the cellar they were to be wintered in, they were perhaps as well off in the yard as they would have been inside, as long as the weather was not very severe.

Before closing I will speak of a matter in regard to cellar-wintering upon which my opinion has been asked. Two years ago, I think it was, Mr. Barber, in one of our bee-papers, claimed that no fresh air should be admitted to the cellar when the bees became so warm that they were uneasy, but instead the cellar should be banked and fastened up still closer towards spring, or during a warm spell, so as to exclude all fresh air from entering. He claims fresh air does harm because it arouses and excites the bees. Dr. Miller and others advise letting in fresh, cool air at night, when the cellar becoms so warm that the bees are restless and uneasy. Both Dr. Miller and Mr. Barber are veterans whose opinions are entitled to great respect, and in this matter my experience has been such that in a way I agree with both of them. I believe the

quieter bees are kept, or remain during the time they are in the cellar, the better, and fresh air admitted by means of an open door or window certainly arouses and excites them. In some cases this fresh air causes a great roar of excitement and I believe it does harm.

There is a saying in regard to drugs, to the effect that their use is always a great evil, but that their use is sometimes necessary in order to overcome evil. Now I believe that this fresh air does harm by exciting the bees, but I know much greater harm would result in some cases if it was not admitted. In the case I have been describing I do not believe a dozen colonies would have survived if the windows had remained closed from the time the bees were put in until the weather was warm enough to put them out in the spring. I have always been an advocate of plenty of fresh air for cellar-wintered bees, but I believe it is much better to admit it through a room or ventilator, in some way gradually, so as not to excite the bees. Southern Minnesota.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

HIVE-COVERS AND ANTS.

Another way to have the double cover free from ants would be to have the two edges entirely open. Then, if it was thought worth the fuss and fragments involved, they might be closed for winter with strips of wood—to be pulled off in the spring. Page 132.

THAT ADVICE TO BEGINNERS.

Beginner's advice for those who ought not to begin, eh? That's all right, Mr. Morehouse; yet, like the famous and brief advice to those about to marry, it may not be heeded. When the passion and the fever burn at their highest, a mountain pitched right in the path would be only a pebble under the wheels. Page 133.

SWARMING.

Mrs. Barber's remark that during an epidemic of swarm-fever more than half the young queens disappeared before beginning to lay, is an important corner of an important subject. Workers feel murderously hateful because their desires are continually thwarted—is my guess about it—and if correct, how are we going to help ourselves except by letting them have their own way? A modified guess might be that bees at such times are excitedly meddlesome, and too easily convinced that somebody needs killing.

I think abundant pollen-supply and steady honey-flow—*not quite heavy enough for much surplus*—to be two of the most important provocatives to swarm-fever. Bad wintering the winter before stands about third, perchance. Hot weather, frequent showers, small hives, and frequent manipulation—especially persecution to kill their drone-brood—are also provocative, I think. Mr. Hawley's remark that during a *heavy* honey-flow two apiaries under the same management behave differently about this matter of swarming—well, it makes one scratch his head and say: "There it is again." As Mr. Aikin rightly suggests, enthusiasm for honey-storing on the part of the bees is the grand remedy; and this must begin before the fever gets started. Unfortunately, that's what we can't possibly secure when by reason of dearth it is lacking. Page 135.

THE DEMAND FOR EXTRACTED HONEY.

Wonder if A. F. Foster is a prophet where he says the use of extracted honey is going to decline relatively. Doubtless would if certain evils are to continue forever. But let us brace up and say, "The Kingdom of Glory is coming"—and then pitch into the evils as often as we can. My customers are decidedly increasing the proportion of extracted which they take. Page 135.

MATING QUEENS IN CONFINEMENT.

Mr. Flower, you are rough on the editors, to complain of the small space devoted to mating in confinement. How can they devote space to it until competent brethren try the thing some more, and report? It seemed last spring that we should have something new in that line; but the season passed, and it now looks as if nobody actually got at it. Page 137.

LONG-TONGUED BEES AND WOMEN.

And Mr. Flower is a little rough on the long-tongued bee, also. The long-tongued woman *does*, more frequently than the ordinary woman, make a wonderful housekeeper—keeps the dirt out, keeps the flies out, keeps the boys out, keeps the traveling agents out ("Diamond cut diamond;" and "Two of a trade;") keeps the owner of the house out, when he might be wasting time in an easy chair; and keeps superfluous company out, that might be wasting the time and resources. Page 137.

WINTERING A NUCLEUS IN AN OBSERVATION HIVE.

Comrade Chrysostom certainly did a unique thing when he wintered out-of-doors (Northern Indiana) a three-frame nucleus in an observation hive. The three frames, if I understand arlght, were one above the other; and the only space the bees had to cluster in were between the one comb and the outside glass. Possibly glass has a value as a winter wall which we have not exploited yet. Page 142.

CAN BEES HEAR?

If we are to take at full face value the account on page 142 and 143, it seems to be the long-looked-for, and always-provokingly-lacking, positive proof that bees can hear. If they can be taught by long feeding—and patient whistling of a particular tune always while feeding—to leave the hive and fly several rods at the sound of the whistle, what more can be asked? But there must be no "gammon"—no intentional or accidental timing of the sound with some other thumping or display or perfume which actually calls the bees. And it must not be always at exactly the same time of day. On the wind side a smell too slight to be noticed by people would probably be sufficient. Possibly the perspiration smell of their keeper standing there would be enough, especially if they had been drilled to that by licking honey off his hands. I, too, think bees hear; but when we get the positive evidence let it really be positive. That they are often non-responsive to sounds fails to prove they lack hearing. They are just as often amazingly non-responsive to the sense of sight: but that does not prove they cannot see.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Keeping Combs of Honey for Swarms.

I lost 4 colonies of bees out of 26 this winter. The combs in the 4 hives are as bright as ever and ¾ full of nice sealed honey. How can I keep these combs and honey for swarms next season and prevent wax-moths from destroying it then, using a disinfectant which will not cause the bees to leave the hive in which I shall put a swarm on these combs? What should I use, and how? OHIO.

ANSWER.—Use bisulphide of carbon. Set a saucer or other dish *over* the frames, pour into it one or two teaspoonfuls of bisulphide of carbon, then cover up as nearly air-tight as you can, having no leaks at top or bottom; pile them up in a pile and treat the whole at once, putting the drug on top of the pile, and using a fourth of a pint for the four. You may as well leave the pile covered up till the next day. Then if you keep the combs where the moths will not get at them, they will be all right till you are ready to put swarms in them. Look out! though. Bisulphide of carbon is highly explosive, and if you bring a light near it there may be trouble.

Transferring Bees from One Size Frame to Another.

I have a colony in an old hive which I desire to transfer to a dovetailed hive, but I do not want the mess of cutting out the comb from the frames and fitting them to the Hoffman frames. Would it be a good plan to put full sheets of foundation in the frames of the new hive and place the old one on top some time in May, with the queen in the lower hive

and an excluder between the two? Would the bees take care of the brood in the upper hive until hatched?

My idea is to have the old frames cleaned out by the bees without losing the brood; then if the combs are in good condition I can fit them in the Hoffman frames. The old frames are about 10x15 inches. NEW YORK.

ANSWER.—Your plan will work all right, except that it will plunge you still deeper into the mess you want to avoid; for the old combs above the excluder will become filled with honey. If you can extract that, you will be all right.

Specialist Bee-Keepers—Rearing Queens, Etc.

1. About what percent of the successful bee-keepers of the United States make bee-keeping their only occupation?

2. "Honor bright," do you think as good queens can be produced from a queen-mother that is confined in a nucleus (to prolong life) as from the same queen when kept in a full or normal colony?

3. Do young bees which hatch too late in fall to get a cleansing flight live until spring? MASSACHUSETTS.

ANSWERS.—1. That's a tough one. I haven't data on which to base an answer, and it would probably be very difficult to obtain such data. In the first place, I don't know what proportion are "successful bee-keepers," and I don't suppose every one would agree upon what should be called a successful beekeeper. Taking bee-keepers as a whole, my guess would be that in most of the States not more than one in 500 makes bee-keeping his only occupation. Take such States as Colorado, and it is possible that the number may rise to 1 in 25 or 50. Yet that guess may be very wild, and I should be very glad if some of the bee-keepers in those regions where specialists are plenty would tell us what percent have no other occupation.

3. "Honor bright," yes. The form of your question suggests that you think differently, and there is a possibility that you may be right. Will you kindly tell us your reasons?

3. I think so.

Bee-Sting Remedy—Dark Color for Hives.

1. Can you give any remedy for the swelling caused by bee-sting, or, rather, an antidote to prevent the swelling? The sting causes little or no annoyance. I hardly notice it, but the swelling is something awful. I have tried ammonia, arnica, soda bicarbonate, Iodine tincture, and hot water. I have been subject to stings for the last 5 or 6 years.

2. What are the objections to hives being a dark color, except being hotter in summer? PENN.

ANSWERS.—1. It almost seems that the only thing is to keep away from bees. Possibly an application of honey or cold water might be good.

2. I do not think of any other objection, unless it be a matter of taste. Unless the sun shines on the hive a dark one would hardly be hotter than a light one.

Spring Feeding—Making Nuclei.

1. About how much sugar syrup will I have to feed my three colonies of bees, that have run short of honey this spring, to last them from now until they can gather honey. I am feeding these three colonies one pound of sugar syrup every day. Is it enough?

2. How can I form nuclei? I am after increase. How many nuclei can I get from one 8-frame colony? NEW YORK.

ANSWERS.—1. That depends. If you have plenty of pasturage from the time of fruit-bloom, it may be well to count that they need something like 10 pounds each from the middle of March. If they gather nothing till white clover they may take five pounds more. That's a liberal allowance, but it's on the safe side.

2. Something depends upon the number of frames filled with brood, for you can make a good nucleus from each two frames. You *can* make a nucleus for each frame of brood, but you will hardly do it a second time, and it is better not to try it the first time. Suppose there are 6 frames well supplied with brood. Of course there will be two other frames of honey and pollen. Take two frames of brood with adhering bees with one of the frames of honey, and put them in an empty hive, taking the queen with them. Two days later take from the old hive two frames of brood and bees and put in a hive on a new stand. Use the other two frames of brood and bees for another hive. That leaves your old hive with only the one frame of honey. Go to the hive that has the queen, and take from it the frame of honey, and put it along with the queen in the old hive. The object of taking the queen away two days in advance is to be able to form your nuclei from queenless bees, which stay where they are put better than bees that do not feel themselves queenless. If you want to make the matter more sure, you can stop the entrances with green leaves for 24 hours after forming your nuclei. Only you need not close the entrances of the two hives that have had the queen in them.

Feeding Bees in Winter.

Last fall I got a colony of bees from a neighbor, which I have kept in the cellar up to this time (March 12). March 10 I happened to go down into the cellar, and took a look at the hive. What I found was a quart of dead bees. I thought the bees must all be dead, and took the hive up in the sunshine, where I scraped some of the bees from the bottom, when quite a swarm of live bees came out. I then opened the cover and removed one frame, and there seemed to be thousands of bees still alive, even if a quart of bees had died. The frame I removed did not contain any large amount of honey—about 2½ inches square of honey was found in the frame, all the other cells being empty. I decided they must be short of stores, and made a mixture of sugar and water (I dissolved the sugar in the water), which I ran into the cells of the frame I had removed. (I should think there was about ½ quart of sugar syrup.)

In the evening I put the hive back into the cellar again. The next day (March 11) I went down (into the cellar) and examined the hive. I heard the low hum of the bees, but I decided I would see how much of my syrup the bees had eaten, and again took the hive out of the cellar, and put it in the sun. Some of the bees came out and flew about for awhile, and returned to the hive. I removed the same frame that I had filled, and found the bees had eaten all the syrup. I again filled it with syrup. Now what is the best thing to do? What can I do to keep those remaining bees alive till it is time to put the hive out? What else could I have done instead of what I did. MINNESOTA.

ANSWER.—What you have done may work all right. The best thing would be to give them enough comb honey to make them pull through. Likely you have none. Then make candy. The Scholz or Good candy described in your bee-book will be best; but if you have no extracted honey with which to make Scholz candy, make plain sugar candy.

Transferring Bees.

How can I best transfer bees from an old-style box into a modern hive. ILLINOIS.

ANSWER.—The instruction given in your text-book on this subject is all right, only nowadays there is a tendency toward the practice of allowing bees first to swarm, then transferring three weeks after the swarming, when the worker-brood has had time to hatch out.

Transferred Bees Fighting—Having Too Much Honey in Spring—Placing Hives, Etc.

1. Will not the bees fight when you return the old bees that are left, to the new swarm, 21 days after swarming when transferring?

2. Can bees have too much honey when put out in the spring?

3. Does it make any difference how far apart the hives are placed?

4. About how many dead bees should there be on the cellar-floor from 23 colonies if they are wintering all right?

5. Is the north slope of a hill a good place for a bee-cellar? Wouldn't sand, put on the floor about 4 inches thick, and then sawdust 2 inches thick on top of the sand, help to keep the cellar dry? IOWA.

ANSWERS—1. That will nearly always be at a time when the bees have good pasturage and will be peaceably inclined. The drumming will take all the fight out of the bees from

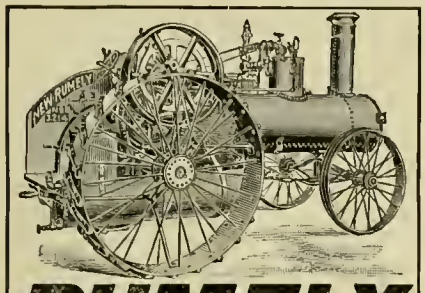
the old hive, and a good smoking will in nearly all cases take the fight out of the others.

2. It would probably be an impossibility in most places. They can not go into winter quarters with more honey than to have all their combs filled. In the course of the winter they will eat out enough so as to afford the queen a place to begin laying, and the enormous draft made on their stores to keep up brood-rearing would empty out enough more to allow all the room needed up to the time of harvest. If, however, the locality is such that from the time they were taken out there would be enough honey gathered to make good the amount used each day, then the queen would become crowded for room. If you find in your part of Iowa a place where the queen becomes crowded for room to lay in a colony to which you have fed nothing after putting in winter quarters, be sure to report it.

3. Yes, indeed. If you put them too far apart it makes too much travel when working at them. If too near each other you will not have room to work at them, and there will be danger of queens and bees getting into the wrong hives. If you leave room enough so that you can be comfortably seated between them, it will be about as well as to put them farther apart; and you can just as well put them in pairs, putting the two hives of a pair as close as you can without touching, then have space enough to put a seat between that pair and the next pair.

4. The number varies. With equally good wintering, the number of dead bees will be much more in a colony that has a large proportion of old bees. There may also be the same number of dead bees with none on the floor in one case and many in others, for in one case they may all be on the floor of the hive and not on the cellar floor. The time they are taken out also makes a great difference. In the past winter, no more bees died for me in the first 75 days than in the last 5. If not more than a quart die for each colony, you may be pretty well satisfied.

5. Other conditions being all right, it would be a good place, but probably no better than any other slope. If the sand and sawdust were very dry when put in, it would make some difference about the dryness of the cellar. But dryness is not so important as temperature and ventilation.



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After reading Mr. Davenport's minute detail of no-drip shipping-cases, it seems all comb-honey producers should be told a much better and more modern plan of fastening strips in no-drip cases. Mr. Davenport was told of the troubles, and cut off his hammer handle, not thinking that the nails were objectionable in any way but in the probable incident of putting them in. While the fact is that anything less thick than honey could find its way under and through the nail holes very readily. Of course everyone is supposed to have nails, etc., but such is not always the case; and, further, not many men are able to hold a small nail in their great fingers and drive it even with a short-handled hammer. We do many small things, and know how difficult they are to do.

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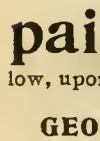

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have a hole in it or a handle to lift it out of the case. The board or form I use has a knot-hole about 3 inches from the end which serves the purpose, the hole or handle should be near one end, or the paper will come up with it from the air-suction. Several one-inch holes through the form would facilitate its quick removal. In rapid work a little paste spread in places on the bottom of the crate would help hold the paper in place. We depend on the wide ends of the paper to hold on to the end of the case firmly; while the form at one end is lifted by the fingers, holding the paper against the case.

Referring to the nails again, you will now see that ordinary flour-paste, rather thick, put on the under side of the strips will hold them in place—no nails, no short-handled hammer, no nail-holes in the tray; in short, a no-drip case used by no one but Bingham and Hetherington that I know of. There is no patent on it, yet it is a vast improvement on any other I am acquainted with.

Clare Co., Mich. T. F. BINGHAM.

Do Bees Hear?

This seems to be a very puzzling question among the entire bee-fraternity, even among the most learned and experienced. It has always been settled in my mind even from a small boy, that bees do hear.

There was a circumstance that occurred when I was a boy 8 or 10 years old that so fixed the belief that it will take strong arguments and even "showing" to change my ideas in that line.

That circumstance was like this: My father and a neighbor went to a sale, and each of them bought a colony of bees. This was something new for the boys concerned about the bees. In those days the highest degree of success was marked by the number of swarms any one had. Of course we watched to see who would get the first swarm, as the time of swarming came on. One Sunday morning the alarm was sounded that the neighbors' bees were swarming, and we all started for the scene, and as we gathered near the place the hiving of the swarm soon began, but they were rather stubborn about being hived, or the neighbor did not understand how to handle them as he should, for all at once they rose up in the air and commenced to start for the woods, when the neighbor began whistling, and they all at once turned and came back just as suddenly as they started away, and settled on the same tree under which the neighbor stood.

Now I want to say here that most of the colony had broken the circle so common to swarming and started in a course some 4 or 5 rods away.

In the summer of 1900 I had a swarm issue and [illegible] high in the air, as if they were lost or bewildered, but in a few minutes they started off in one direction, and I started with them for about a block until I was under them. I then commenced [illegible] would have alighted on my head had not I stepped among some small peach-trees near by, upon which they settled.

Then, again, when all the bees are in the hive save 1 or 2, and you in some way pinch one, how soon a number will come rushing to its help, in answer to its loud call for assistance.

I would also ask, Why does a queen pipe if she cannot be heard by the colony?

With these facts staring me in the face, I must [illegible] experiments in this line the coming summer.

H. W. HECHLER.

Keokuk Co., Iowa, March 4.

Experience with Bees.

The fall of 1900 found me with 4 colonies, heavy in stores and bees, and for the season 24 sections of honey, several stings, and some experience. Winter problems confronted me. My neighbors were ready to advise me as to the wherewiths, etc. I was told that bees froze stiff and remained in a dormant state until spring, and, when they thawed out, to feed them corn-bread and molasses. Another bee-keeper who had gone out of business, for lack of stock, said to kill a chicken and bake it and put it in the hive for the bees. I wanted to do the right thing for the bees, and, like many other beginners, I was inquiring of every fellow that had ever kept bees, what to do with them, and I found them ever ready to advise.

Let me say right here, before I forget it, that about that time I received a sample

copy of the American Bee Journal, and one of the first things I noticed was an editorial in which Editor York cautioned the beginner in regard to taking advice of men that had failed to make bees pay, but advised them to get a standard text-book and subscribe for some good bee-paper. That timely advice was all that saved me going out of the business. I had subscribed for a paper and concluded that I could do without the text-book; that was a big mistake, but I didn't see it then.

I was greatly pleased with the American Bee Journal, but my 24 pounds of honey would hardly stand two bee-papers. (Some people keep bees for pleasure, some for the dollars, but a combination suits me best; I find much pleasure with my bees, and a little money is a right handy thing to have around the house).

I would advise the beginner to take the American Bee Journal, and then if he gets into trouble, all that is necessary is to make his wants known and Dr. Miller will do the rest.

But, in December I bought 7 more colonies, and moved them on a sled over as rough a road as there is in southern Ohio; they bumped around over the rocks, and I expected to lose them all, 4 colonies did die, but the other 3 colonies pulled through in very good shape. The colonies that died were queenless and had laying workers, at least so I supposed, as I found drone-brood in worker-comb and no queen present. They left at least 40 pounds of honey in the hives which I fed to the bees in the 6 colonies which remained.

As evidence of my ability as an up-to-date apiarist, increase was the paramount issue with me, when spring came. There being no bees within 3 miles, except about 5 colonies, I fed my bees in the open. I contracted the entrances to 2 inches, and found that proof against robbing—only use the preventive before commencing to feed. I also succeeded by following Doolittle's plan of stimulating and spreading brood.

I produced apple-bloom honey, of which I received for my trouble some 20 pounds per colony, it being the first apple-bloom honey produced in sections in this vicinity. So I concluded it paid to read bee-papers even if I am a 2x4 apiculturist.

Ants bothered my bees badly in early spring, and I tried to "lick them" in a hand-to-hand contest but failed. I tried salt, hot water, coal-oil, and even turpentine; still they came. I then smeared the bottoms with pine tar which did the work. My new hives I fixed by driving four 8-penny nails, one in each corner, like legs, and smeared the nails with tar and let the nails rest on blocks which I also gave a good coat of tar. Shallow cans filled with water and the nails resting in the cans would produce the same effect. If you are troubled with ants just try my simple remedy and note the results.

By stimulating, my bees swarmed 3 weeks sooner than any in the country, and by natural swarming I increased to 15 colonies. Some of the after-swarms were very small, so I concluded I would double up some. I hived an after-swarm on Tuesday, and on Friday I ran another after-swarm into the same hive and again another on Sunday, using a little tobacco-smoke each time. Each succeeding day I would find a dead queen near the entrance, but no fighting among the bees. (Davenport is correct again).

Now I went one step further, to build the colonies up very strong. In about a week, after sundown one evening, when the bees were hanging out on the alighting boards, I picked the boards up very carefully and held at the entrance of my experimental hive; I shook a few of the bees down. The bees came out of the hive and went for them, and some of them were foolish enough to pop it at me. After they had settled down I let the cluster on the board down so the bees would just touch the entrance, and they went right in and were not molested; on the same plan that if the bees are hanging out and fanning and you jar the hive they will quit fanning and go in the hive. I put all the bees from 5 alighting-boards in the same way and then gave them a few puffs of smoke, and awaited results. They filled 10 frames with stores for winter, and I got 24 sections of honey from them.

They appear to be wintering all right. Was it locality? "Tut," I suppose some of you wise sages will say, "It's a lie." I say I can do it again, so can you if you knock some of the scales off your stout-edged glasses, and let up on Davenport long enough to try it.

Pike Co., Ohio, Feb. 21. J. M. WEST.

30 DAYS TRIAL.

on any vehicle we make. Keep it if you like it, return it if you dislike it. We save you dealer and jobber profits. If you want to know more send for our free 22nd annual catalogue.

KALAMAZOO CARRIAGE & HARNESS MFG. COMPANY,
(*Pioneers of the Free Trial Plan.*)
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Bee-Man, Experienced, Wanted, at once, to manage 200 colonies. Wages, $20 a month and board.
W. R. ANSELL, The Portland,
14Alt ST. PAUL, MINN.

Nucleus Colonies, Queens, Strawberry Plants. American Bee Journal and Tested Queen, $1.50. Circular free.
J. F. MICHAEL,
14A4t R. R. 6, WINCHESTER, IND.

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Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

WHAT OUR PATRONS SAY

Get 50 chicks from 50 eggs often. HATCH EVERY GOOD EGG EVERY TIME. Never gets out of order. Needs no attention at night. Regulates perfectly. Best on earth. Catalogue BUCKEYE INCUBATOR CO., No. 53, 2c. Springfield, Ohio.

50 Egg Size $5 — 30 DAYS TRIAL

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Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.
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$5 TO START YOU IN BUSINESS We will present you with the first 85 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.
DRAPER PUBLISHING CO., Chicago, Ills.

ITALIAN QUEENS and the WARFIELD STRAWBERRY ...

D. J. BLOCHER, Pearl City, Ill.

Ask for our price-list and testimonials.
As we are spending the winter in North Dakota, all our correspondence, whether social or business (until further notice) should be addressed,
D. J. BLOCHER, Denbeigh, N. Dak.
4Atf Please mention the Bee Journal.
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BETTER THAN SPRAYING.
Don't lug barrels of water around when spraying. Use the poison direct. Our
Common Sense Dust Sprayer
and Insect Exterminator is a most ingenious device that is rapidly supplanting the old methods. It blows the finely powdered dust into every nook and crevice. Reaches the bottoms as well as the tops of leaves. Destroys insect life on plants, vines, shrubs and trees. Just as effective for vermin on poultry and pigs. More rapid than spraying. Descriptive circulars and testimonials free.
HILLIS DUST SPRAYER CO., Box 16, ST. JOSEPH, MO.
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Loss in Cellar-Wintering.

While in the cellar a short time ago I noticed a bee dragging one of its dead comrades towards the edge of the floor of the hive, and when it got to the edge over went the living bee with the dead one down to the cellar floor. Now I wish to express two opinions right here: First, that was a strong, healthy, vigorous bee, that (barring an accident) would be likely to come through the winter all right and do effective work in the spring. The next is, that bee would never get back into the hive, but perish on the cellar floor. I would like to ask the cellar-wintering fraternity if they have made observations along this line, and if it is shown conclusively that we suffer serious loss in that way, the next move will be to devise a remedy.

Since making the above observations, I have enjoyed a very pleasant call from that prince of bee-keepers, S. T. Pettit, and he agrees with me that we suffer loss as above.

J. M. CRUICKSHANK.
Ontario, Canada, Feb. 24.

Queens Hurt in Mail Still Good for Stock.

The editor of the Bee-keepers' Review says:

Queens are often injured in shipment. Of this there is no doubt. One proof is that a very superior queen often turns out to be a very poor queen after a long journey; while *daughters* of this queen prove to be most excellent. I have often sent out a queen that I knew to be the best that could be secured only to have customers complain; and then, the next year receive a letter of apology, saying that a *daughter* of this queen had proved *superior to anything in the apiary*. A queen should be bought, not so much for the work that she may do *herself*, but for the *blood* that she brings into the apiary.

Time to Take Bees Out of Winter Quarters.

R. F. Holtermann, in Gleanings in Bee-Culture, advises to begin about March 15. To this Editor Root replies:

It may be well to bear in mind that localities vary greatly as to the proper time to set bees out. Dr. Miller once gave the good rule that applies equally to all places, to set out when the soft maples come into bloom. This

will usually be about the time when safe warm weather comes on. We shall, however, set our bees out late rather than early. We are liable to have a very warm spell in April, during which the bees will get a large amount of brood started. This will be followed by cold weather during which not only a large part of the brood is lost, but many of the bees, in their efforts to cover and preserve the brood. It therefore seems to me (except in the case of actually diseased colonies) that March 15 is about a month too early for most localities. Last year we did not set our cellar bees out till *after the 1st of May, and those colonies proved to be the best we had.* Of course, if one can't keep his bees quiet he will have to set them out earlier.

A Handy Tool.

"It is a long iron spoon about 15 or 18 inches long. With it we can work our cappings, also in lighting our smoker. A little charcoal from last using in bottom, the spoon can quickly take live coals from the stove to add to, then fill up with—we use dry apple-tree bark."—Australian Bee-Bulletin.

Foul Brood.

Foul brood is not always apparent at a spring examination. A colony that appears free from the disease early in the season, may turn out badly infected in August and September. Don't be lulled into a sense of security because no infected colony is found when supers are put upon the hive.—Bee-Keepers' Review.

Purity of Italians Bees.

"Nor do I consider any Italian queen as pure." When Bro. Doolittle says that, I think that what he *means* is true, but that what he *says* is not true unless he uses the word "pure" with some meaning other than that found in the dictionary. From what he has said in other places, I understand him to believe that no Italians are of an entirely fixed or permanent character, in which he is probably strictly correct. But I do not know that in the term "Italian" there is at all involved the idea of strict permanence of character. If a man should order a queen, saying, "I want a tested queen, for I want to be sure that I have nothing but pure Italian," I think Bro. Doolittle would be able to fill the order, and it would not surprise me if at some time he may have sold a queen that the purchaser supposed was "pure Italian." If there is no such a thing as a pure Italian queen, there is an immense amount of correcting that should be done in our bee-literature. In looking over a half-page in the "A B C" I found just nine such corrections needed. Moreover, if no Italian queen ever sold was pure, an immense number of frauds have been committed by men supposed to be honest.—Stray Straw in Gleanings in Bee-Culture.

Exposing Brood to Robber-Bees.

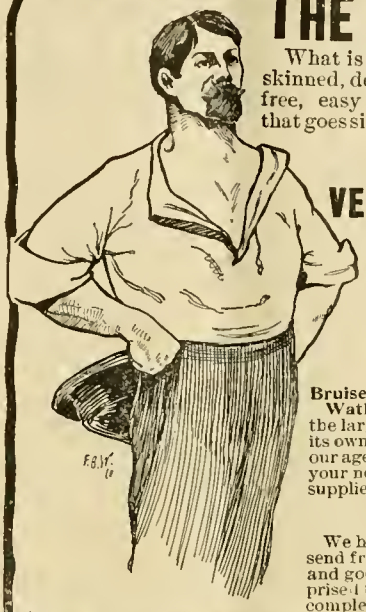
Did you ever notice that bees rob worse when brood is exposed? If you never have, the next time you have the ill luck to have bees waiting to rob, just open a brood-nest and see how quick the robbers pour into it. Bees will rob when brood is exposed when they would pay little attention to honey alone. I suppose that when they smell brood they at once conclude that some colony is in a bad fix, and that it is a good time to make a raid on it.—Lone Star Apiarist.

English Versus American Pluck.

C. H. Tomlinson, in the British Bee Journal, reports that he was driving some bees, and says:

There happened to be staying in the house a bright American girl, and a very inquisitive, excitable and stout old lady (English), both of them desirous of seeing "the fun"! As it was getting late in the day, and the bees were not in the best of tempers, I advised the ladies to don their veils (which the younger did), and then placed them in an advantageous position to view the whole proceedings.

Hardly had I commenced operations, how-



THE GLORY OF HEALTH.

What is more pleasing to the eye than an athletic, clear skinned, deep chested man, ready to toil or play, with the free, easy grace of perfect health? The kind of man that goes singing about his work, because he feels that way.

WATKINS' VEGETABLE ANODYNE LINIMENT

will not make a lazy man muscular, but it will keep the body in such perfect condition that the food you eat, the work you do, will all help to build up a big, strong body. It is the cold in the chest, followed by a troublesome cough that breaks down so many strong bodies. A dose of Watkins' Liniment will stop it all before the harm has been done. **No running for Doctor,** no paying big doctor bills. Use internally or externally for **Colds, Coughs, Colic, Diarrhoea, Dysentery, Cholera Morbus, Indigestion, Cuts, Burns, Bruises,** for **man or beast.**

Watkins' Liniment is good for so many diseases because of the large number of valuable ingredients, each of which does its own work, and does not interfere with the others. Let our agent leave a bottle at the house. If there is no agent in your neighborhood, write to us, and we will see that you are supplied.

A Valuable Gift.

We have a beautiful **Cook Book** and **Home Doctor** that we send free to all. It is full of valuable recipes and good wholesome advice. Everyone is surprised that we can afford to send out such a complete and beautiful book free. Write to-day. Send your name and address on a postal card.

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10 Liberty Street, Winona, Minn., U. S. A.

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Marshfield Manufacturing Company.

Our specialty is making **SECTIONS,** and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.

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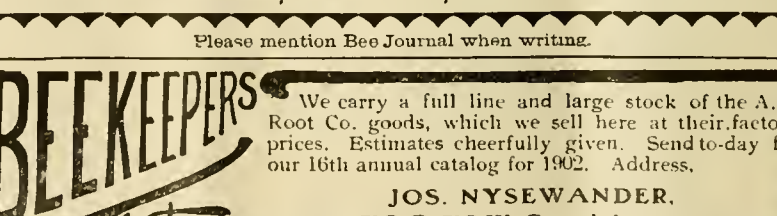

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JOS. NYSEWANDER,
710 & 712 W Grand Avenue,
DES MOINES, - - - IOWA.

BINGHAM'S PATENT Smokers
24 years the best. Send for Circular.
25Atf T. F. BINGHAM, Farwell, Mich.

SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.

Please Mention the Bee Journal when writing Advertisers *****

over, when I heard a shout, and the exclamation, "Oh, I shall be stung, I know I shall!" from the dame, who at once commenced to throw her arms about in the usual style. Her hostess endeavored to calm her fears, telling her that beating off the bees in that fashion was the very way to get them to sting her; the next instant there was a perfect yell! A bee had pinned her on the face. Without waiting further risk of damage she whipped her skirts up over her head and ran screaming into the house. I would have given almost anything at that moment for a "Kodak" snap shot, the back view being exceedingly fine.

The American girl stood it without any sign of retreating, indeed, seeming both interested and highly amused.

It would be a very unfair inference to conclude that the American girl had any less fear than the other. Indeed, did she not show the greater fear by putting on the veil?

Selling Honey.

In the Progressive Bee-Keeper, S. E. Miller discusses the manner in which a full supply at commission houses brings down the price, and then says:

The question then arises, What is the remedy? My answer is: Withhold as far as possible our honey from the principal market centers, and the way to do this is to dispose of every pound that we can in the smaller cities, towns, villages, and even in the county. I know it is much less trouble to dispose of the entire crop in bulk and be done with it, but by selling in smaller quantities and supplying the demand nearer home, we can realize enough more per pound over what we would receive if shipped to a commission merchant, to pay us well for the time devoted to selling, and the extra cost of smaller packages. One who has never tried selling honey to his home trade and near-by towns does not know how much honey he is shipping off to help keep down prices in general that might just as well be used near home to make new customers and an increased demand.

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred ¾ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. 200 tested reared last season ready to-day Contracts with dealers a specialty. Discount after July 1st. Send for circular.

JOHN M. DAVIS,
14A26t SPRING HILL, TENN.

1902—Bee-Keepers' Supplies!
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Are You a Judge?

If your experience with sheet metals has all been "under cover," you are liable to make a mistake when choosing a rural mail box. Even the box-makers who have had no "outdoor" experience are astonished at what the cruel weather can do. We can give you valuable "pointers" gained by actual experience. Write for particulars.
BOND STEEL POST CO., ADRIAN, MICH.

SWEET CLOVER
And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

FOR SALE

60 colonies of Hybrid Bees, all in Dovetailed Hives, on self-spacing, Hoffman frames. One o 10 colonies, $3 per colony; 10 or more, $2.50 per colony. One super goes with each hive. All bees guaranteed to arrive safely by express. Address, **F. GENT, ROCKFORD, MINN.**
14Alt Mention the American Bee Journal.

Page Poultry Fence
weighs 10 pounds to the rod. Isn't that better?
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
Please mention Bee Journal when writing.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

DAIRYMEN ARE DELIGHTED
to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.
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BEES FOR SALE

60 good, heavy colonies. Will be sold at a bargain if taken soon. Address.
C. S. JACKSON, HARPER'S FERRY, IOWA.
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If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.25 to
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"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

BEE-SUPPLIES!
ROOT'S GOODS AT ROOT'S PRICES
Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.
WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.
Please mention Bee Journal when writing.

HONEY AND BEESWAX
MARKET QUOTATIONS.

CHICAGO, March 19.—There is continued depression in the trade owing to light output on the part of retailers and the desire on the part of those having stock on hand to dispose of it. The past two weeks have noted a further decline in price of comb honey, with the exception of basswood, which is scarce and wanted at 2 to 3 cents above any of the other white grades; it now brings 14@15c; alfalfa and other fair white, 10@13c; ambers, 8@10c. White extracted dull at 5½@6½c; ambers, 5½@5¾c; Southern and dark, 5@5½c. Beeswax scarce at 30c. R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH CO.

ALBANY, N. Y., Feb. 21.—Our market has not been so empty of comb honey in a long time. Fancy white comb, 15@16c; No. 1, 15c; dark and buckwheat, 13@14c. Extracted, buckwheat, 6c. Beeswax, 30c. H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c: Florida honey, in barrels, 6@6½c. BLAKE, SCOTT & LEE.

BUFFALO, March 28.—Buffalo is very quiet on honey, except very low grades at very low prices. We quote extra fancy,1 4c; No. 1, 12@13c; other grades, 8@10c. Extracted, 5@6c. Beeswax scarce; fancy, 28@30c; dark, 22@25c.
BATTERSON & Co.

CINCINNATI, March 7.—The general tone of the honey market is lower. Water-white comb honey sells from 14@14 c; it is hard to obtain 15c for extra fancy. Extracted has weakened a little, and sells at 5@5½c; fancy, from 6@6½c.
C. H. W. WEBER.

NEW YORK, March 8.—Comb honey is now pretty well cleaned up, and what remains on the market is nearly all fancy and No. 1 white honey. The demand is fairly good at following quotations: Fancy white, 14c; No. 1, 13c; No. 2, 12c. Extracted remains dull at unchanged prices with plenty of supply. Beeswax firm, 29c.

We have just received the first large shipment of comb honey from Cuba; some in tall sections, packed 20 combs to the crate and some in square sections packed 32 combs to the crate, glass front on one side, plain, no-bee-way section. The honey was packed in shipping-carriers, containing 8 of the large and 9 of the small crates respectively, and arrived in first-class condition. The flavor of this honey is very fine, and as to the quality—some of it is fancy white, while others is of a yellowish tint.
HILDRETH & SEGELKEN.

SAN FRANCISCO, March 12.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

While spot stocks are of rather light volume, holders show more inclination to unload than they did a month ago. Although quotable values are without marked change, concessions are granted to buyers which would not have been thought of at the beginning of the year. A large proportion of the honey now offering is comb of medium grade.

WANTED. EXTRACTED HONEY—either large or small lots: parties having same to offer, send samples, and best prices delivered at Cincinnati, Ohio. We pay cash on delivery. THE FRED W. MUTH CO.,
10Atf Front and Walnut Sts., CINCINNATI, O.
Please mention Bee Journal when writing

Northern Grown SEEDS
Our handsome seed catalogue for 1902 will interest you. It tells about Corn Insurance. Perfected Farm Seeds. Best varieties. Reasonable prices. Extraordinary free premiums. It is mailed Free to seed buyers. Write for it to-day.
NORTHRUP, KING & CO.,
Seed Growers, Minneapolis, Minn.
Please mention Bee Journal when writing

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Tip-Top Glass Honey-Jars

The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.

If you try them once you will likely use no other kind of top or sealing arrangement for honey jars.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.

200-Egg Incubator for $12.80

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

45A26t Mention the American Bee Journal.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

25th Year Dadant's Foundation 25th Year

We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

Bee-Keepers' Supplies OF ALL KINDS *****

Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

THE DANZENBAKER HIVE

The best comb-honey hive on the market may be obtained of The A. I. Root Co., of Medina, Ohio; at any of their branch houses, and many of their local and jobbing agencies. Send to the address nearest you, and save freight, and get quick delivery.

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The A. I. Root Co., 10 Vine St., Philadelphia, Pa. Wm. A. Selser, Manager.
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The A. I. Root Co., - - Mechanic Falls, Me. J. B. Mason, Manager.
The A. I. Root Co., 1024 Miss St., St. Paul, Minn. H. G. Acklin, Manager.
The A. I. Root Co., - - - San Antonio, Texas. Twepperwein & Walton, Managers.
The A. I. Root Co., 1200 Md. Av., S. W. Washington. Saffell & Herrick, Managers.
The A. I. Root Co., San Ignacio 17 Havana, Cuba. F. H. de Beche, Manager.

Jobbing Agencies.

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C. H. W. Weber, - - - - Cincinnati, Ohio.
M. H. Hunt & Son, - - - Bell Branch, Mich.
Walter S. Pouder, - - Indianapolis, Ind.
Jos. Nysewander, - - - Des Moines, Iowa.
Jno. Nebel & Son, High Hill, Montgomery Co., Mo.
Prothero & Arnold, Du Bois, Clearfield Co., Penn.
Carl F. Buck, - - Augusta, Butler Co., Kan.
W. W. Cary & Son, - - - Lyonsville, Mass.
The L. A. Watkins Mdse. Co., - Denver, Colo.

Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.
THE A. I. ROOT COMPANY, Medina, Ohio.

GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market.

J. B. MASON,
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.

M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.

THE A. I. ROOT CO.,
MEDINA, OHIO, U.S.A.

☞ GEORGE W. YORK & CO., 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., APRIL 10, 1902.

FORTY-SECOND YEAR No. 15.

WEEKLY

A SCENE IN CUBA—(See page 227.)

THE AMERICAN BEE JOURNAL

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EDITOR—George W. York.
DEPT. EDITORS — Dr. C. C. Miller, E. E. Hasty.
SPECIAL CORRESPONDENTS — G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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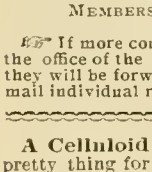
A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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FOR 1902 FREE!

Long-Tongue Variety—Warranted Purely Mated

We have arranged with the queen-breeder who furnished Long-Tongue Red Clover Queen for us during the season of 1901, to fill our orders this season. Although fully 95 percent of the untested queens he sent out were purely mated, this season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most excellent reports from the queens we supplied last season. And this year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

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All Queens will be guaranteed to arrive in good condition, and will be clipped, unless otherwise ordered.

A Warranted Queen for Sending us only TWO NEW YEARLY SUBSCRIBERS.

In order that every one of our subscribers who wants one of these Warranted Queens this season can easily earn it, we will book your order for one queen for sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00; or for sending us *one new* subscription and 30 cents more (or $1.30), we will mail you a queen; or send us $1.60 and we will credit your own subscription for one year, and mail you a warranted queen.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

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Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., APRIL 10, 1902. No. 15.

Editorial.

The Chicago Association held its semi-annual convention last Thursday afternoon and evening. The attendance was fair, and the meeting a good one. Two changes were made in the constitution. The name was changed from Chicago Bee-Keepers' Association to Chicago-Northwestern Bee-Keepers' Association. Also, it was voted to hold an annual meeting instead of semi-annual hereafter, and such meeting to be in the fall, in Chicago, at the call of the executive committee. This will give a chance to select a time when there are low railroad rates in force. There is to be a two-days' meeting—Wednesday and Thursday.

The above actions will, it is hoped, cause a revival of an association fully equal to what was once the old Northwestern convention, which was so popular and influential some 20 years ago. There is nothing in the way now to prevent making this Association, both in membership and influence, second only to the National. It already has over 60 paid members. Let all who are included in the great Northwest, resolve to be on hand at the meeting next fall

The Scene in Cuba, shown on the first page, was sent us by John H. Martin (Rambler). At the same time he wrote us as follows:

EDITOR YORK:—I am in a very mild climate beside the climate you are in. It is even more equable than in California. The nights are so mild that a sheet is all that is necessary for a covering. It is not too hot in the daytime, but yet warm enough for light cotton or duck clothing. A naked urchin is not an unusual sight. Last Monday was Cuba's national holiday — their Fourth of July. There was a parade of school children—14,000 in line. It was called purely a Cuban affair, but behind it all were Uncle Sam's methods.

I hand you some snap-shots. You will note the smart appearance, as well as good looks, of the little folks. You will note that the color-line is not closely drawn here—black and white march side by side, and sit side by side in school. Yours truly,

JOHN H. MARTIN.

The picture which we reproduce, shows a Cuban stone-house with tile roof, barred windows, heavy shutters, and no glass. The balcony is of elegant iron-work.

What Causes Swarming? is a question of deep interest, for with an exact knowledge of the cause there might be strong hopes of prevention. It is well known that something may be done toward the prevention of swarming by giving plenty of room, by shade and ventilation, and by having young queens, but with the knowledge of all these there will still be cases of swarming; and just why it is that bees swarm has generally been considered as one of the things dwelling very nearly within the realm of mystery. S. D. Chapman expresses some decided views upon the subject in the Bee-Keepers' Review, and in view of the importance of the subject his views may be worth considering, even if not proven correct. He thinks the swarming-fever does not come from queen or drones, but from the workers, and "almost invariably has its origin with those bees that are *under 15 days old*."

He says: "It is almost impossible to create the desire to swarm in a colony where *all the bees are field-bees*.....On the other hand, take a colony of bees that are all under 12 days old, and see how easy it is for them to get the swarming-fever." Without at all attempting to dispute his theory, one can not help wondering whether Mr. Chapman speaks from actual experience in this matter, seeing that the cessation of the honey-yield is counted upon to stop further preparations for swarming, and with bees under 12 days old there would be no bees of the ordinary age for storing.

Even if Mr. Chapman should be mistaken upon this one point, it does not disprove his fuller theory as to swarming, which is, that at the time when bees swarm there is a lack of balance, and there is a surplus of young bees in proportion to the number of field-bees. He says:

"There are not field-bees enough to furnish *work* for these young bees. If you give to such colonies one *pound* of field-bees, before they get the swarming-fever, to balance up such colonies, you will have no premature swarms. When the field-force is in proportion to the young bees, the probabilities of swarming are past."

Sounds Like a Romance.—"A Reader" sends a clipping which quotes from a Nebraska newspaper, and asks, "Is this report true?" The first part of it is so rich in romance that it is hard to believe it could have been meant as truth, but the truthfulness of most that follows makes it pretty clear that no burlesque was meant. Dr. J. L. Gandy was interviewed, and the following paragraph of the interview makes interesting reading:

"I am a great admirer of the busy little bee, and have several thousand colonies in different places, and keep some 125 at my home, and give them my personal attention and care. You will doubtless be surprised at my yield this year, which was 407 pounds to the colony from the 75 colonies, spring count. I also hived 50 swarms which will pay the entire expense of the season, leaving me a net profit of $61 to the colony, which represents an investment of only $5.00. I produce pound sections, extracted or strained, and chunk honey, and all of it is put on the market at 15 cents per pound. Most of it is sold right here, although I occasionally ship some to other towns. I sold 200 colonies for $1,000, and during the latter part of May had a chance to sell 500 colonies for $2,500 to a Colorado party, but before the deal was consummated the heavy June flow came on and I refused to sell. I have each year purchased a farm from the sales of honey and bees, and this year I branched out a little and bought some $40,000 worth of real estate, and paid one-third of the purchase price from this year's profits on the bee-industry. Why should I not be enthusiastic in praise of bees? I sat in the shade during the forepart of June while my bees were making me $140 per day. I am in the business solely for profit, and money obtained from the industry is much the same as so much found.

In the course of what follows the Doctor says 100 colonies, "with ordinary care, will yield over and above expenses $1,500 annually." Pity he did not say how many times that could be obtained with extra care.

Stimulative Feeding of Bees.—The opinion has been expressed in these columns in a somewhat emphatic way that beginners should have nothing to do with stimulative feeding, and no exception was made for any cases or localities. Fuller thought upon the matter forces the conclusion that there may be conditions in which it will be wiser to risk the dangers incident to stimulative feeding than to omit all effort in that direction. Given a locality in which there comes good weather for bees to fly, and yet not enough for bees to do to start them at brood-rearing until the harvest comes, and it is better to do something to have the hives filled with bees, even if some mistakes are made in the doing. This fuller thought and "change of heart," it may as well be confessed, comes from the presentation of the case by the Rocky Mountain Bee Journal. Under the caption, "A Beginner's Lesson in Spring Feeding," the whole matter is so well presented in that journal that it is a pleasure to give it entire. It will be found on page 231.

A Large Edition of this number of the American Bee Journal will be mailed, some of the copies going to bee-keepers who are not now subscribers. We trust they will be so well pleased with it that they will want it regularly hereafter. Only $1.00 will pay for it for a whole year—52 weeks—52 copies! It ought to be a good investment to any one who wants to make anything out of his bees.

Yellow-Box Honey, according to replies in the Australian Bee-Bulletin, is the only kind in Australia that does not readily granulate.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 214.)

SWEET CLOVER AS A FORAGE CROP.

Dr. Miller—I doubt the advisability of our spending much more time in discussing this matter, but a closely related item I think we might discuss with profit. I think we are pretty well settled, whatever may be the character of sweet clover honey, that wherever it is introduced, wherever it is known, there is no one wishes it away, and all of us would like to have a little more sweet clover grown where we are. But there seems to be somewhat of a difficulty in having its qualities as a forage crop known, and if we can do something to further that, we will do more good than talking about the honey that comes from it. I would like to learn something as to what it is worth as a forage plant. If some one here has tried it and knows whether cattle, horses or anything of that kind will eat it, they may be a help to us. There is a great deal of contradictory testimony about it. One man says that when alfalfa and sweet clover are in the field—one at one side and the other on the other side—when cattle are turned into it they invariably go to the sweet clover side. Other say that sweet clover will not be eaten by stock at all, and I think they are right. I think both sides are right; the thing is that stock of any kind must learn to eat it. They must acquire a taste for it. I have been trying for years to get a crop of sweet clover hay and have failed. When I have gotten it into my barn, and I have considerable of it, I find that in the barn it will be eaten greedily by the horses and such stock as have learned to eat it. The grown plant is not eaten. This year I had sweet clover growing and I was afraid there wouldn't be enough left for seed, it was eaten up so close, and just the stump left. When stock learns to eat it in my locality—everything goes by localities—they eat it readily. Is there any one here who has ever succeeded in having a wagon-load—one-half ton of sweet clover hay—that he has taken into his barn?

Pres. York—I think we can sum up the honey question by saying when asked which is the best honey, "The best honey is my honey." Now go on to the question of sweet clover as a forage plant. Who has had experience with growing it for that purpose?

Dr. Miller—Will you ask how many have ever sown sweet clover seed?

Eleven indicated they had.

Mr. Dadant—We tried sowing sweet clover. We have never harvested a wagon-load of it because we always thought it made too coarse feed. Sweet clover grows from the seed, blossoms, and dies. During the first year it grows about a foot high, the second year the stem becomes so large and hard that I doubt if the cattle would eat it even if harvested. We have harvested some with other hay and always had the stalks left even though the stock would eat the tops. In sowing sweet clover, at least in our locality, as the Doctor says, if we sow sweet clover and let it come up and grow, I don't care how rank and thick, and turn the cattle on it, in three years it is entirely destroyed and there is nothing left, which shows that they will eat it. It grows the first year from seed, and if stock is turned upon it they will eat every bit of it, and leave no chance for the second year; and during the second year, if you turn stock upon it before it blossoms, they will turn in and damage it to such an extent that it will grow very little. One party, a friend in Canada, we advised to try sweet clover for his bees. He came at the time of the World's Fair and told us he was making a success of sweet clover in this way. There grass grows very late. The thaw takes place the last of April or beginning of May and there is no grass. The sweet clover that has taken root the season before, in the course of two weeks grows a foot high; they then mow it, and have an increased quantity of milk. Now after a while they feed it to their stock, but they have never let it ripen and get into hay.

Dr. Miller—How fully have you tried making it into hay?

Mr. Dadant—We haven't tried at all. We grew about an acre of sweet clover for the bees, and when we found it was a very rich piece of ground—the sweet clover grew 6½ feet high—we let the bees work on it. You all know how tough it becomes if you cut it for hay, and the bees would not have any chance. When we turned the cattle into that pasture it took two or three years before it was all destroyed. There was some blue-grass that took root in the same pasture, and there isn't a bit of it in that place, nothing but clover. Since that there isn't a stem of it. Of course, it will grow in corners around Chicago because there are no cattle running at large, but I do believe if there were they would destroy it. You see it along railroad tracks and waste places where cattle can't run upon it. Put in pastures you wouldn't find it would last very long, because if there very long the cattle would eat it, I think, more readily than blue-grass.

Mr. Dutnall—I live here in Chicago and I keep my cows on the road, and they never touch sweet clover.

Mr. Dadant—Not even the first year's growth?

Mr. Dutnall—No.

Mr. Dadant—I would like to ask Dr. Miller if the yellow sweet clover wouldn't made a better forage plant than the white?

Dr. Miller—I don't know.

Mr. Green—There is a little herd of cows herded where I live; I have had a good many sad moments watching them eat the sweet clover down to the ground; the second year's growth, too.

Dr. Miller—That proves the point that they must learn to eat it. Keep those same cattle upon it long enough and they will learn to eat it. Do you know that Texas cattle will not eat corn? They must learn to eat it. So cattle must learn to eat alfalfa; they wouldn't eat it at first sight. Now as to the matter of hay. Mr. Dadant says that they haven't used it for hay because it is too coarse. The cattle will not eat the stems of red clover, but you may cut sweet clover when it has no more stem than red clover.

Dr. Dadant—What of the bees, then?

Dr. Miller—Take the first year, and cut it, the bees will not get it, and you may take as your Canadian friend did—the first year's growth they cut.

Mr. Dadant—No, the second.

Dr. Miller—Cut that, and cut it several times. Doesn't it make up afterwards?

Mr. Dadant—They use it as green feed.

Dr. Miller—They use it as green feed for some time and it is so early in the season they cannot very well ripen it, and so could you in Hamilton County; you could cut, and ripen, and make hay of it.

Mr. Dadant—What of the blossom then?

Dr. Miller—It would blossom just a little latter, and if in the white clover season it will be worth as much again by cutting, instead of losing. To my certain knowledge you can get a good crop of hay from it the first year. I have had it grow three feet the first year.

Mr. Josephson—I watched a patch of sweet clover closely the past summer, and I saw in the early spring when the cattle had plenty of grass to feed on they wouldn't touch it. The dry season came and they ate the sweet clover just as well as other grass.

A Member—That is my experience.

Mr. Chapman—I got half a ton of hay into the barn. I have not had the experience myself, but within a few miles of the courthouse I can relate the actual experience of the Normal Park Improvement Association. They employed a team, bought a mowing machine, and cut down all the sweet clover that grew in the vacant lots around our premises, and the man who did the cutting got permission to store that hay for his team. Altogether, he must have harvested about five tons, mixed sweet clover hay. It contained other weeds and some tall grass which natually grows on our vacant property. He is now cleaning the sidewalks of snow with a snow-plow with the same team. I asked him how they eat the hay, and he says fine. That was sweet clover that was headed to blossom the first of July. It was cut from July 1st to 10th; it lay there in the lots and he employed some small boys to hand-rake the hay, and he also raked it with the hay-rake, and he gathered it up after three or four weeks: some even rained on, but his team is eating all of it. They expected of course to destroy the sweet clover. I was one who helped. They cut it off as low as they could, but in a vacant lot they had to hold the mower bar up pretty high. The result was that the sweet clover branched out close to the ground, long limbs some places four or five feet long, and then stood up and blossomed well, and that made the late crop of honey for my bees, and I was very glad to get it. There wasn't as much

bloom on the succeeding plant, but sufficient to make fine forage for my bees. It blossomed luxuriantly after that. In November it was fine.

Mr. Baldridge—In Mississippi I have seen as high as 75 acres on one farm where they grew it for a hay crop. They cut it before it blossomed, when it was about three feet high. They then depend upon its coming up to produce seed, and secure all that grows, from 200 to 500 bushels of seed, and from the second crop they get their honey.

Dr. Miller—I would like to answer Mr. Dadant as to the character of the long but coarse stems. I had a good deal cut after it was in blossom, and, as he supposes, there are, of course, stems that are worthless, but, after all, there will be enough to make it tolerably valuable as a hay crop; but it will be very much more valuable as a hay crop if it is cut before it blossoms at all; and then the loss is nothing, because it will blossom so much later, and then it is eaten, and if I would have my way about it—and there is a good deal growling along the roads where I live—I would have the road commissioners cut it off close down before it first comes into blossom. It would be worth more to me than if they let it all grow.

Mr. Sylvester—That's the experience we have. They cut it down all through the season, and the result is blossoming later; it comes on after the others stop.

Mr. Childs—We have the same experience in our town. The citizens got up in arms about the sweet clover. It grew so high they couldn't get through the street. Father said he wished they would cut down more as it helped his honey crop nicely. I believe it would be a good thing if they would agitate that and have it cut down early in the spring.

Dr. Miller—In that same connection comes something that I don't know perhaps is so generally known. Two places within two or three miles where cattle are upon it upon the road almost constantly, and it is eaten down throughout the whole season, I don't think it grows in any case more than six inches high, and there is really a carpet of white that is beautiful on the side of the road, and in any village or town it would be an ornament instead of a detriment or disagreeable. If cut early enough in the season, and constantly cut, one pasture done in that way will be a thing of beauty instead of being something distasteful.

Mr. Hogge—I observed in watching where the cattle ran on it and ate it down in June, when it began to blossom in May and June it is higher on the sides where cattle are not tied, and no great amount of cattle kept it eaten down, and it blossomed constantly until frost. But I notice another thing, that while some say cattle won't eat it, there is good grass growing around there (I was interested in the yellow clover and was watching the process)—they seem to leave the grass and eat the clover, but it didn't stop the blooming. As Dr. Miller remarked, they kept it close down but it constantly bloomed. When the yellow clover that had not been eaten at all in the month of June closed its blossoming, the seed would mature and the stalk die; but that eaten by the cattle was brought into such a condition that it constantly shot out lower limbs and kept blooming until frost.

Mr. Green—Referring to the question of having it cut by the city officials—they sometimes will be a little slow. The ward superintendent of my ward was; he cut it down about September 20, and there wasn't another blossom.

Mr. Fairbank—My experience with sweet clover in Iowa—and sweet clover is our principal flow—the sweet clover as a forage plant, take it when the white clover and fall flow help the bees out—that in the roadsides we have no trouble about cattle and sheep keeping it down in the pasture, but where they can't get at it it grows very rank. A good many of the road-bosses are prejudiced against it. Where it is kept down, and eaten down, it blossoms till the frost kills it.

(Concluded next week.)

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

The Premiums offered this week are well worth working for. Look at them.

Contributed Articles.

Reading Bee-Keepers' Text-Books and Papers.

BY C. P. DADANT.

I HAVE always been a poor hand at paying compliments to any one, but I must compliment the Editor on his advice to beginners on page 83, where he recommends getting a text-book and let the bee-paper go—if the reader cannot afford both. This unselfish advice is certainly sound. Too many people go into a business without learning how to manage it, and thereby make a failure. A Chicago party some two years ago bought a large farm in our vicinity and settled upon it, with the intention, as he said to me, to "play at farming" a while. This playing has proven an expensive venture. Two bad seasons in succession, joined to absolute lack of knowledge of the management of a large farm, have so thoroughly disgusted him with the "play" that he is seeking a purchaser at a much less price than the original cost, and will probably have to make a sacrifice.

It would be about the same with a man who would start in bee-culture without some knowledge of the habits of the bee. He must know how to distinguish workers from the queens and from the drones, how to rear queens, how to ascertain how much feed the colony must have to winter or to reach the crop if winter is over. If feeding is necessary, he must know how to do it properly, how to prevent robbing, and stop it if it begins. He must be informed that the appearance of the first blossoms is not indicative of a constant supply of honey for his bees.

In this connection, I will cite the instance of a man who had purchased half a dozen colonies of bees in spring, and had brought them home during fruit-bloom. He had seen our success with bees and had concluded that all he had to do was to buy a few "for a start," and that they would go on increasing without his having to attend to them, in any other way than taking away their surplus honey. As a matter of course he expected to ask us for a little advice once in a while.

He brought his bees home, as I said, while the apple-trees were in bloom, and came to me to tell me how strong the colonies were, and wanted to know whether he would not best put on the supers. I went over to his yard and we examined the colonies together. The weather was rainy and rather chilly, and they were getting nothing out of the fruit-bloom, and were rather short of stores. So I told him that he would best keep the supers off for a while yet, as the bees would probably need feeding before clover bloomed. This thoroughly disgusted him with my advice. "What! Feed them when there are blossoms all around?" It probably looked very suspicious to him, for he asked no more questions and did not feed, the result being that he lost a portion of them and the remainder reached the clover crop in poor condition. But there is no end of things needed to be known, in bee-culture, that cannot be learned unless it be through a protracted experience, or through a book.

But the book is not alone needed; and here, Mr. Editor, I think you might have said something a little more pointed, as to the necessity and usefulness of a good bee-paper. The text-books give the digested knowledge acquired by the leading bee-keepers and scientists of the world; they give it in a form that is at once exhaustive and elementary, because they not only explain details, but give reasons for all advice. But a text-book cannot follow progress, except through repeated revisions, and these revisions are only made from time to time, while the weekly or monthly publication keeps us posted on the present improvements. These improvements are of all kinds, both in the domain of scientific discoveries and mechanical appliances. Without the magazine, that reports these improvements, we are bound to get belated in the race for progress, and it is not only local improvement that we want but a general information of what is going on the world over. Those who do not read find themselves distanced within a few years.

I never was so much struck with the idea of steady progress as when Father Langstroth visited us after having retired from the bee-business for some 15 years. It seemed to me as if we had been following his teachings almost to the letter, and that we could hardly show him anything in the bee-line that he had not already seen; yet, after witness-

ing our extracting crew at work for a few hours, he said: "It is of no use for one to think that he can, after 15 years of absence, find an industry just as he left it, for he is sure to be *away behind*."

And so, if we read a text-book, we will get knowledge acquired at the date when the text-book was printed; but if we do not take a bee-paper, we are sure, after a few years, to find ourselves "away behind."

Yet practical bee-keepers are very careful not to accept new theories, or new implements, or new methods, until they have been thoroughly tested, and it is well to warn the beginner against taking hold of any new thing which he has not seen recommended in the text-books, unless it has been previously tested on a sufficient scale to make it reasonably sure of success. Many and many an implement or a new method has been lauded to the skies, to be found afterwards only an imposition, usually introduced in good faith by some self-deluded individual.

Hancock Co., Ill.

No. 4.—Bee-Keeping for Women.

Helpful Advice on How They Should Dress for Bee-Work.

BY EMMA M. WILSON.

THERE is no disputing the fact that in bee-keeping men have a decided advantage over women in the matter of dress. It is so much easier for them to dress cool and comfortable, and also easier to protect themselves from stings, than it is for women. I have felt tempted to envy Dr. Miller more than once, on a sweltering hot day, as he walked around attired in a pair of painter's white overalls, said overalls tucked in his socks to protect himself from stings. He looked so cool and comfortable—perhaps he did not feel as comfortable as he looked, but he looked tantalizingly cool, at any rate.

But women can do much to make their dress comfortable, by a little thought.

Do not wear heavy skirts that take about all your strength to carry around. I have found a light-weight worsted skirt the most satisfactory. Duck skirts are comfortable, but the fact that they soil so easily is a serious objection to wearing them, as they are not very easily laundered. But a worsted skirt and a shirt-waist make a very satisfactory rig.

A large denim apron covering you completely from head to toe is indispensable. Be sure to make it long enough to reach to the very bottom of your dress, so that if a little honey drips on your apron it will not lodge on the bottom of your dress-skirt on its downward course.

Denim is the best material I know of for aprons. I formerly used ticking, but I like denim better, as you can get it in plain colors. The last ones I made were of plain brown demin, and were very satisfactory. Either denim or ticking is good, as far as the wear is concerned, as neither will allow the honey to soak through readily. And when you slip out of your apron, after your day's work is done, you present quite a creditable appearance, which is something dear to the heart of a woman, especially if you are at work in an out-apiary and have a long ride home before you.

My aprons are cut by one of the Butterick patterns, No. 3696, and certainly they are ideal aprons for the apiary. I have worn them for years, and have thoroughly tested them, and I really would feel lost without my big aprons, with their generous pockets. Those pockets are such a comfort (I wish our dressmakers would manage to give some such pockets in our dresses; but no. Dame Fashion has doomed us poor mortals to go pocketless). What do I use those pockets for? Well, I am not going to tell you all I put into them, but one thing I do use them for is to carry my hive-tool. I think it would be lost a good share of the time were it not for those pockets.

One very important item in your outfit is your gloves. I wear a pair of light-weight buckskin at present. I have tried a good many different kinds. For quite a while I wore a white glove, which is quite common. I do not know whether it is sheepskin or hogskin, but I do know that it had a very disageeable odor. If it was not for that it would be a good glove; as it is, I much prefer the light-weight buckskin.

I sew a pair of white sleeves around the top of the gloves, having the sleeves long enough to come well up on my shoulders. I have a strap sewed from one sleeve to the other across my back. A similiar strap across my chest is

MISS WILSON DRESSED FOR BEE-WORK.

sewed to one sleeve, and bottoned to the other. This is a very convenient arrangement, as it takes very little time to slip my gloves off or on, is perfectly bee-proof, and at the same time keeps the sleeves of my dress clean.

The reason for having the sleeves white is that the bees will rarely sting anything white. I have about half-a-dozen pairs of sleeves, and as fast as one pair becomes soiled I rip them off and sew on a clean pair. The gloves can be washed clean any time. It is a little more convenient to have two pairs, then you are always sure of having one pair ready for service.

A comfortable pair of shoes is an item not to be overlooked. Never get a pair of shoes with high heels; and if you can get a pair with rubber heels you will find them extremely comfortable. If you cannot get the shoes with rubber heels, you can have the rubber heels put on by your shoemaker for 50 cents a pair. If you have never tried them just try a pair and see how you like them.

I am very fond of wearing low shoes and slippers, and many an unnecessary sting I get to pay me for it.

Now we must not forget the bee-hat. I like a broad-brimmed straw-hat with a veil made of net sewed around the brim, and a rubber cord run in the hem around the bottom of the veil; a safety pin caught through the hem passing over the rubber cord in front, ready to pin down securely to my apron, pulling it down tight enough so the rubber cord will be drawn taut, then I feel sure no bee will be able to get under my veil.

One advantage a woman has over a man is that she can use a hat-pin to pin her hat on, and that is a comfort. You are sure your hat is not going to tumble over your eyes at a critical moment when both hands are full. Let us score one for the women on that point.

One trouble I have is to get a hat with a crown small enough so the hat will not rest on my ears. I don't see why some accomodating soul doesn't make a few hats especially for women.

McHenry Co., Ill.

Selling Comb Honey by Weight vs. Case.

BY R. A. BURNETT & CO.

WE have read two articles in the March 13th issue—one by J. A. Green, and the other by R. C. Aikin. They are both excellently written, and the personality of each writer is strongly in evidence. Recently we had the pleasure of meeting Mr. Green (who, by the way, is an old acquaintance), and we have the usual regret that comes to all of us when we lose a neighbor; yet the matter of a thousand miles separation is not as much of a hindrance to intercourse as it was a quarter of a century ago. So rapidly are we progressing in the evolution of the power latent in man that we can even dare look forward to the time when *competition*—which until very recently has been considered the necessary thing to the developement of man's power—that it, too, will have served its purpose and no longer be a necessary evil,

and in its place will be co-operation. What a grand transition this would be!

We wondered if all the readers noticed what care Mr. Green has taken to know exactly what he is doing before he sells his honey *by the section*? He will not trust even his own practical eye to detect the difference of weight in the sections, but he puts the case on scales, which are properly balanced and weighted, and then proceeds to put the sections in the cases situated on the other end of the beam until such a time as he has adjusted the sections to get a given quantity of pounds in the case; then he proceeds to sell it by the section! Prudent Mr. Green—he knows exactly what he is doing, and if his customer should question his statement he is ready to verify by placing the contents upon scales, knowing that it will bear him true evidence of good faith and intelligence on his part.

What do you make of this paragraph where he says:

"There are great and undeniable advantages in buying and selling by the case, or by the section, which amounts to the same thing. Grocers almost invariably sell honey by the section if its condition will at all admit of it; and after they have once experienced the advantages of the plan, they generally prefer to buy as well as sell by the piece."

Then he immediately qualifies the proceeding by the following short paragraph:

"To enable them to do this advantageously, there must be a certain uniformity, not only between sections in each case, but between the different cases."

Is this not tantamount to weighing the honey for the grocer. And what overworked tradesman does not want to get as much done for him as it is possible to obtain? In other words, the groceryman trusts Mr. Green, whom he knows to be an intelligent and trustworthy person; therefore, this becomes practically a local matter. Mr. Green sells that which he himself manipulated to a man who has, by prior experience, learned to trust Mr. Green, and he is as safe in doing so as any mortal can be in trafficking one with another.

Notice how fully Mr. Green proves this statement in another paragraph, where he says:

"This year I put up 50 cases for this trade; 40 of them weighed exactly 22 pounds net each, and the remainder 20 pounds net. For another purpose I put up a number of 12-section cases, each of which weighed exactly 9 pounds net."

Then he particularly calls our attention by saying: "Notice, I say, these were exact weights, as exact as your grocer weighs when he weighs out sugar or coffee, and that each section was uniform in appearance, with no extra-light or heavy section in the case," and which he proves by weighing them as they come from the storage-crates.

Now please tell us, did Mr. Green sell his honey by weight, or did he sell it by the section with out knowing what the section weighed? Seems to us this question is not a hard one to answer.

We think it would be only fair to say that at the present time we have on sale a car-load of comb honey from Colorado, that the owners desired to sell by the case, but they would not guarantee that the cases would average any given weight, for they said some were heavier and some lighter; but they wanted to sell it for so much, and the buyer take his chances. They were unable to do so, and now it is being sold by weight.

We find that some producers have been painstaking and their honey runs quite uniform; again, there are others who have put in sections that weigh seven ounces, and some that weigh fifteen, with others ranging between these two extremes.

This is the very thing that is to be feared by adopting the plan of buying and selling honey by the case. The careless and unscrupulous seller will take advantage of the honest and careful ones' reputation, and say, "If Mr. Jones can get $3.00 for his case, I don't see why I shouldn't get $3.00 for that is the market price." While competition is the plan upon which society is organized, we must needs have weights and measures to keep the ignorant constantly informed of his duty to his fellows. When the world is run on the much higher plan—that of love, which Mr. Aikin has brought into his article under the term of "co-operation"—then there will not be the necessity for misrepresentation to get a living; for the just will have taken the place of the false, and our evolution to greater and even higher possibilities than the human race has hitherto dreamed of will be dawning. That this panacea for all trouble may be reached it is first necessary to eliminate selfishness. We know that this idea, with perhaps the majority of people, is yet Utopian—in that this world can be run on, "Do for your neighbor rather than for yourself." Cook Co., Ill.

A Beginner's Lesson in Spring Feeding.

WHILE admitting that stimulative feeding is a two-edged sword (as some have called it), liable to cut the wrong way, if carelessly handled, it is exceedingly poor advice to advise beginners to "let it severely alone," as did the American Bee Journal in a recent issue. In localities where the main flow is preceded by a dearth, or a very light, intermittent flow, some sort of stimulative manipulation is absolutely essential in order to have our colonies populous enough to begin storing in supers at or near the beginning of the main flow. Loss of time in having colonies ready for the first alfalfa flow means loss of money, hence one of the most important lessons for beginners to learn is the art of stimulating brood-production at just the proper time to have an immense force of young bees ready to enter the supers with the first opening of the alfalfa blossoms.

To accomplish this requires great tact and some foresight, but the beginner can only acquire this by experience, so my advice to him is to learn from others all that he can upon this subject, and then go at it for himself, with both eyes and ears open. Mistakes will doubtless be made at first, but that is better than never to learn at all.

In Colorado, or any other locality where natural sources of pollen and honey are not sufficient to cause the production of bees enough to take care of the early flow, feeding will undoubtedly pay, and pay big. As soon as the bees begin flying in the spring begin feeding rye or wheat flour or graham. I prefer graham, as they do not get it all over them so badly. This takes the place of pollen, and should be continued until the pollen supply from natural sources is sufficient to satisfy them. The best way to feed graham is to distribute it through the apiary in shallow boxes.

Some warm day in April go through all your colonies and equalize their stores. This is done by taking combs of honey from those that have a plenty and giving it to those that only have a little.

In this climate stimulative operations should not begin before the first of May. It is then 40 or 45 days before alfalfa begins to yield, and that is about the length of time necessary to rear a force of new bees and have them ready when the flow begins. If there is some honey in all the hives, begin operations by uncapping three or four pounds per week. This will cause the bees to move it. In moving it they feed the queen with greater liberality, which stimulates her to laying eggs more rapidly. When the bulk of this left-over honey has been consumed begin to feed. Feed about a quarter of a pound of honey or sugar syrup per colony daily, made almost as thin as water—in fact, have it just sweet enough to induce the bees to work on it.

As a beginner, you will, of course, only have a few colonies, and your best way to feed will be in some kind of shallow receptacle placed on top of the brood-frames in an empty super. Before pouring in the feed throw in a handful of alfalfa hay to prevent the bees from drowning. Continue the feeding until the honey-flow starts, or until the hive is well filled with brood and bees, and when you stop, if honey is not coming in freely enough to supply their daily needs, be sure there is sufficient food in the hives to carry them along until the yield begins. A little stinting or starving at the latter end will result in the undoing of all the good that has been done, and greatly injure the colony.

Put it down as an axiom, that there is no danger in spring feeding provided it is done in the right way and at the right time. To determine the way and the time adapted to the individual needs of the individual colony, the beginner must keep his think-shop in order and use his brains. If you feed too early in the season you will rear a lot of useless bees that will be consumers instead of producers, and, besides, if you begin in cold weather, a cold snap may come on and kill half of your brood and leave the colonies so weak in energy and vitality that spring dwindling will finish them. Learn how, go slow, use your best judgment, and you will come out all right.—X, in the Rocky Mountain Bee Journal. Boulder Co., Colo.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

PICTURES OF APIARIES AND DESCRIPTIONS.

Yes, when you give us that picture of your apiary for publication, "fall to" and tell us the whole thing. Mr. F. W. Hall, pages 161 and 162, sets a most excellent and long-needed example. And the magazines of the outside world need the same sort of teaching worse yet. Who has not felt, on looking through them, sorely tried, and almost insulted? Such numerous, costly, interesting, resplendently beautiful pictures, and not descriptions enough to amount to a hill of beans! It's amazing that publishers, after so much expense and pains, can be willing to throw three-quarters of the value of the illustrations away by leaving the reader with no means of knowing about them. Well, we know that that stack of honey had speaking relations with a remarkable queen. We "allow" that 250 sections and a super of extracted honey and a swarm all in one season is going it gay. Have their tongues surveyed, Mr. Hall. A unique swarm-catcher is a one-legged milking-stool daubed in slum-gum. And four-fifths of the swarms used the stools *when the inventor made a hobby of them*, and only four-twenty-fifths when he got indifferent. And more of us have wondered if sweet-corn tassels didn't yield some honey at times.

KILLING YOUNG QUEENS IN THE FALL.

Mr. T. F. Bingham, you succeeded well in giving us that sense of novelty—killing your young queens if they lay too late in the fall. Why didn't you kill the bees? They are the ones to blame in the case if the colony breeds late. All queens lay till the bees stop them of it (by neglecting to feed them, and by neglecting to hatch the eggs), d'ye hear? And will you kill all the queens now and get along with laying workers? But your idea that a colony breeding in the cellar endangers the colony next to it—it will hardly pay us to throw that idea overboard with a laugh. Guess that's so. Bees sometimes are as bad as their keeper to catch on to a novel but dominant idea—and better posted than Mrs. Grundy about what goes on behind their neighbors' walls. It doesn't very clearly appear what we can do about it, however—but that may be found out later. Page 164.

WINTERING BEES OUTDOORS.

Mr. Dodo, of the Michigans, furnishes a suggestive and somewhat puzzling fact. Three rows of hives were snuggled up next to a high fence and packed there. Outside row wintered pretty well, while of the row next the fence one-half died. Premising that deep snow banked up beyond the fence and covered the hives, also it might be guessed that the whole establishment got too warm, and that the outside row naturally suffered much less from that cause--not enough to do much harm. But if the bees had a general flight after they were moved, and before they were shut in, why, then, as Mr. Coveyou suggested, they would largely re-enter in the outside row, and leave the inside row to perish from weakness and lack of young bees. Page 165.

TALL SECTIONS AND TWO COLORS OF HONEY.

Is Mrs. Morrow right, that tall sections are more apt to get two colors of honey in them? Not to any great extent, I think. In a good flow all kinds of sections will be uniform in color; while in a very bad, halting flow all are more or less in danger of being piebald. Page 165.

GLOSSOMETER AND MICROSCOPE—LONG TONGUES.

One phrase I found in Prof Cook's excellent paper, page 166, which I hardly like. "I found, *as of course I must*, that the glossometer and the microscope told the same story." No "must" about it, quoth the know-it-all fellow. He would call it a triumph instead of a mere rolling off the log. Happy is the man who can reach the same result by two lines of investigation—or make either one of them tally with big, clumsy facts. It is of interest, as well as a little puzzling, that races vary more in tongue-length than do individual colonies inside the race. And the shortest-tongued race (so reported) can beat the longest-tongued race at putting up section honey—leastwise, the latter has been universally abandoned in America. This is a pretty strong hint that tongues are not all.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Moving Bees in Winter.

I intend to move my bees from Taylor County to Kansas City. I have them still in winter-cases over the supers packed with leaves. Would you to take the winter-cases off? If so, would you take off the supers? I have text-books on the subject but none of them say anything about moving bees in the winter. IOWA.

ANSWER.—It will be better not to take away the winter packing till the warm weather comes. Whether you can handle them in moving without taking away the packing is the question. If convenient to do so, leave the packing. If inconvenient, it must be a question between the inconvenience to you if the packing is left on, and the inconvenience to the bees if it is taken off, and I cannot decide that. Possibly you could take away the packing and then return it after moving.

Bees Coming Out of Hive at Night.

I had one colony of bees that cast 2 swarms last summer, the last one about June 1. I put them into a chaff hive and for a while they seemed to work well, but after a time did not do much, and would come out of the hive at night and hang in a cluster covering the entire end. In the morning they would gradually go in until all disappeared. As I was a beginner in the business I did not know the cause of it. One morning while they were out I opened the hive and found that nearly all the bees inside were drones. Thinking they might be the cause, I killed a large part of them, and I have had no more trouble of the kind. What was the cause of their coming out of the hive in the night? What can I do should I have another case like it? MAINE.

ANSWER.—It looks as if the bees might have been hanging out as a matter of comfort, because it was too warm in the hive, and when you killed off part of them they could all stay in the hive without being to warm. Possibly, however, the bees may have been queenless, the unusually large number of drones pointing that way. So look out for that this spring. Aside from the matter of queenlessness there was no need for you to do anything.

Transferring—Feeding Bees, Etc.

1. I have a colony of bees in a frame hive, but it is not the size I want it. I want to transfer into a Langstroth hive this spring. How shall I do it? and when is the best time?

2. I am afraid my bees will be short of food before summer comes. They are in the cellar. How and what shall I feed them? I have some honey in the comb in sections.

3. Can I feed them without taking off the covers?

4. Can I take off the covers in the cellar and examine them without their flying out all over the cellar?

5. Can bees fly when it is 50 degrees above 0?

6. I intend to clip the wings of my queens this spring. How shall I do it? And when is the best time—before they swarm?

7. Would you advise me to do this? I cannot be near the hives all the time, as I will be out in the fields, etc., but will be around them at meal-time, and at other times when I am at home. MINNESOTA.

ANSWERS.—1. Full directions for transferring hardly belong in this department, but a good text-book will give you fuller instructions than there is any room for here. The

Heddon plan is perhaps as good as any, but nowadays it is thought by many to be a better plan to let the bees swarm, hiving the swarm in an improved hive, and then at the end of 21 days drive out the remaining bees and set the old hive off to one side for the bees to rob out. If you prefer not to wait for this, you can transfer in fruit-bloom.

2. Honey in sections will answer nicely. It depends on circumstances how you can feed them. In a frame hive they can be put in frames. But in your box-hive they must either be above or below. If they can be put above and covered up bee-tight, they will be safe from robber-bees. If below, give them in the evening when bees have stopped flying, and be sure the bees make a start on them right away. To do this it may be necessary to pound on the hive to rouse them enough to come down. Sometimes, however, the cluster of bees will be down so near the bottom-board that the bees will readily attack a section lying on the floor, the bottoms of the combs perhaps touching the section. A colony short of stores, however, is not likely to have the cluster down very low.

3. Yes, if there is room to push the sections under, or if the hives can be raised from loose bottoms.

4. Yes, if worked carefully.

5. Yes, if it is bright and still.

6. Catch the queen, being careful not to hold her by the abdomen or hinder part; hold her with the left hand, her stinger pointing to your right, then with a pair of scissors clip off half or more of the two wings on one side. Clip her at any time convenient after warm weather comes.

7. Yes, I should want the queen clipped, even if I were in the apiary every hour of the day.

Transferring from Box-Hives—Yellow-Pine Hives.

Has any one tried to transfer bees from box-hives to movable-frame hives by making a cover to fit the latter hive, and cutting a hole in the top just to fit the box-hive, and set the box-hive on top, stopping all cracks to force the bees out through the new hive, as it is their custom to build below? Would they eventually take up their quarters in the new hive? If so, when is the proper time to take off the old box?

1. I am a beginner. Last summer I bought 6 colonies of bees for $5.00, 3 hybrids, 1 black, 2 Italians, and want to transfer them this spring into Langstroth hives.

2. Will bees do any good in yellow-pine hives? I use white pine, but yellow is much cheaper. ILLINOIS.

ANSWERS.—1. Yes, that has been done, but it is not always the most satisfactory. You will have the old hive filled with honey that is not in the most satisfactory shape. If you decide to use the plan, cut away all you can from the lower part of the box-hive, cutting away some of the lower edge of the combs—the object is to leave just as little room as possible in the old hive. You could take off the old hive any time after it was so filled with honey that there was no brood in it. Or, you could take it off as soon as the lower hive contained three or four frames of brood, and three weeks later drum the bees out of the old hive.

2. From what I know of yellow pine, I don't believe it would be as cheap as white pine, in the long run. If exposed to the weather it will soak the water when it rains, and soon rot.

Transferring Bees.

A colony of bees was given me for a present last November. The colony was very weak, but had sufficient stores for winter, as my friend asserted. Knowing nothing whatever about bees, I sent for "A B C of Bee-Culture" and studied up "wintering." I then made a good chaff hive. I carefully packed the hive with the super on, and put about 3 inches of chaff on top of the super cover. The whole is at present on a box out in the yard under a tree.

Shortly after I had put the hive on its stand, honey began to flow out of one side of the entrance. The flow is increasing and has spread more than half way across the opening. On looking in, and running a wire in, I found a comb lying on the bottom-board, under the center frames. I suppose that during transportation one of the combs broke loose and fell against the next one, and so on. The evil seems to be increasing, and I do not know what to do.

The hive is a dovetailed 8-frame Langstroth, but in the spring I would like to put the bees into a Danzenbaker hive. Under the circumstances, I cannot transfer by the Heddon method.

1. Do you think the following plan practicable? I would take off the Langstroth super and put a Danz. brood-chamber with frames filled with foundation on top of the old brood-chamber. The Danz. is 3½ inches wider, but I would make that open space bee-tight. I then would drive bees and queen into the Danz. hive by drumming on the sides of the old hive. Would they build comb and bring up the honey and commence rearing brood in the new hive? If they would do that, I would leave them in this position until they had cleaned out the lower hive, then I would remove it and put the Danz. on its own bottom-board in the same place, and give it a super with sections and starters.

2. Would it be advisable for me under the circumstances to change to the Danz. system? IOWA.

ANSWERS.—1. No, your plan would not work. If you should drum the bees up into an empty hive every day, every day they would go back to their combs in the lower hive when you stop drumming. Leave them as they are till fruit-bloom begins, and then drum if you must; but if you drum them out of the old hive you must not leave it below for them to go back into. It may be, however, that the combs are not so badly broken but you can get them cut, and fasten back in the frames those that are broken out.

2. It is not at all certain that you would gain anything by the change.

Requeening—Helping the Bees Get Up.

1. I wish to requeen several colonies this spring, with as little loss as possible. Will this plan work with bees with queen-cells? Place the old queen with some brood above the excluder, give a ripe cell below, and when hatched and mated take the old queen away.

2. Another plan to supersede the old queen, put capped brood and a cell over a wire screen on top of the hive to be requeened with the entrance in front, so that when mating she will return to the lower entrance and take possession below.

3. Sometimes having queenless colonies in the spring, and wishing to introduce fertile queens to them, will this plan work? Take two or more frames of capped brood, place over them a wire screen, give the queen to capped brood immediately, and when hatched unite with the bees below. Which is the best way to unite?

4. How do bees get up among the combs when loaded with honey, when using a deep entrance? Do they have to go up the sides, or rear end? Would it be best to put a narrow plank crosswise, thick enough for them to crawl up on, about the center of the hive?

ANSWERS.—1. Doubtful.

2. Still doubtful.

3. It will probably work all right. Unite by shifting the wire screen so the bees can have a passage at one side. After a few days remove the wire screen.

4. Don't you worry about giving them any help. They can fly right in and alight on the bottom-bars, or they can climb up at the sides. But don't leave a deep space under the bottom-bars in harvest, or the bees will build down into it.

Managing the Increase.

I have 6 colonies of bees and want to get 4 or 5 swarms from them in June. I will be on the road at that time 3 days at a time, as long as a week at a time. I have the 8-frame super with 5⅜-inch frames.

1. Would it be better to have 2 such supers for each hive, as I have not enough to change from one to the other, as the one is nearly filled?

2. The caging of the queen and the bee-entrance guards are a little out of place with me, as I am not advanced enough in the business, so I will ask what I need. If I am at home when they swarm, I can handle them all right; but when I am obliged to be away for 3 or 5 days, and perhaps a week, I am lost, and do not know what to do to save a few swarms. ILLINOIS.

ANSWERS.—1. I am not sure whether I understand you. You should have for each colony as many supers as the bees will fill during the season, and one extra, for you will not know just exactly when the season will close, and the last super given may have little or nothing done with it. If you mean that you intend to take the sections out of the supers as fast as a superful is finished, then you may be able to get along with two for each colony, but you mustn't

think of getting along with less than two, for when a super is nearly finished it would be a waste of honey to have no other super for the bees to be filling while finishing the first.

2. I don't know any way that you can work for comb honey and leave the bees for a week without using an entrance-guard or caging the queen, unless you are much more expert than would be necessary to use a queen-cage or entrance-guard.

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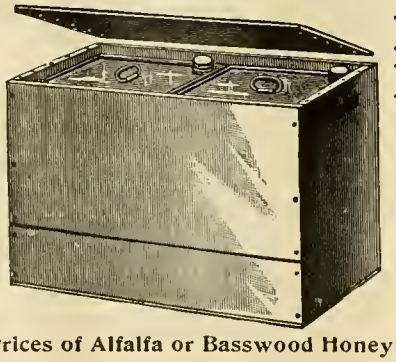

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About three or four years ago I conceived the idea of an attachment to wax-extractors to separate the honey and wax. The old way of letting the honey and wax run into one common pan or tank had several objections that I longed to get rid of, and, having solved the problem in a very satisfactory way, I now propose to publish the results of my cogitations and experimenting. The device, while having more properly its place with the solar, may be made to answer the same purpose for which it was invented, in connection with wax-extractors of other kinds. I have no extractor but the solar, hence have not used it

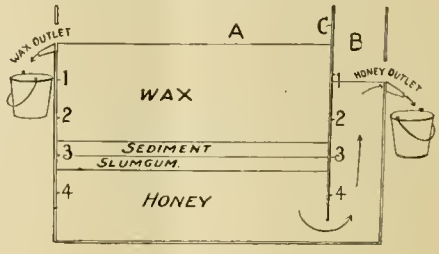

FIG. 1.

with any other kind, but the principle may be applied to others.

The principle upon which this device works is specific gravity. Honey weighs 12 pounds to the gallon, and water about 8 pounds. I do not know what is the weight of beeswax, but I know what every apiarist does—that wax is lighter than water. It is immaterial as to the exact proportion, so we will call it 8 for wax and 12 for honey.

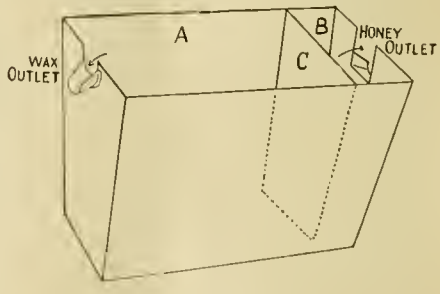

FIG. 2.

Now, suppose you take a cake of wax 3 inches thick and put it into a bucket of honey or into a tank where the wax has plenty of room so it does not touch the bucket or tank in any way that will interfere with its floating, and the wax will stand one inch above the surface of the honey. You see it is just a matter of weight: two parts of the honey are as heavy as three parts of the wax, hence the wax carries its surface clear above the honey, just as a cork floats a considerable part of its bulk above water. It matters not whether the wax is liquid or solid. It is bound to float just the same. A third of its depth will stand above the honey, and the rest will be submerged.

Now look at Fig. 1. This represents the separator as it appears in a general outline view. This is placed under the drip as it runs from the pan supporting the mixture of wax and honey-cappings, broken or any kind of comb. The first to flow from the melting combs will be honey, dropping into the separator at A, the larger of the two compartments. The partition between these compartments does not reach quite to the bottom by about ½ inch, hence the honey will pass under and rise in both compartments alike.

Look at the outlet for honey, and you will see that it is deeper from the top than the

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wax-outlet; and so when the honey rises to the opening it flows out, and will continue to flow as long as it pours into the other compartment, passing under the partition. The wax will begin to come shortly, and, being so much lighter than the honey, will begin to rise or pile up in compartment A. No matter what amount of wax falls into the honey, it keeps rising above and settling below the level of the honey-outlet; ⅛ the depth of the body of wax is above and ⅞ below; thus it increases until it flows out at its own overflow-outlet, and thereafter maintains its position, becoming neither deeper nor shallower. As long as wax and honey continue to flow in, the wax floats in its own compartment; and the honey, being so much heavier, sinks right through the wax and comes up and out at its own level. If wax stops coming, that body of wax in compartment A just remains as it is, neither less nor more, and honey can pour in all day, but will pass through and out at its own door; and, likewise, should honey stop coming, but wax continue to flow, the honey in the separator remains stationary, and the wax overflows into its own place. There is no limit; the two must separate and flow their own way when they come into the separator, whether it is tons or pounds.

There should be a check or dam to keep back the slumgum that would wash down into the separator. There is always more or less of sediment that will get down; but if the cocoons and more bulky foreign matter are kept back the fine sediment will be found accumulated between the honey and wax; and when the remnant of wax cools and is removed the sediment comes with it.

This little contrivance I count as a valuable adjunct to any solar, and may be used to advantage in many places. I have made my solar with one end for all sorts of trashy combs, and the other end for melting cappings, candied sections, new broken combs, and clean combs that may contain honey suitable for table use that can not well be separated in the extractor. Cappings or broken combs placed in the solar will very soon release the honey and let it run into the separator, and from there it will soon be in a tank or receptacle underneath, and away from the heat and light. I have sold many hundred pounds for table use that has been through the solar and separator. The fact is, the separator is a sort of strainer, acting on the specific-gravity plan, and does its work when the honey is quite warm and thin, so that it separates freely, the impurities floating up next to the wax. This idea of a strainer has been published in this journal, but I do not take the time to hunt up when or by whom.

For cooling and caking the wax I use the Rauchfuss idea of a series of small pans with an overflow from one to the other. The Root Co. is now putting out the same thing with their solars. The honey, besides being strained by the gravity process in the separa-

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tor, passes below into a tank, and there, while still warm and thin, goes through another gravity-straining process; and, if not yet satisfactorily done, can be drawn from there and put through cheese-cloth or other strainer.

My separator, which has handled about a thousand pounds of wax and over a ton of honey this summer, is very well represented in Fig. 2. The bottom is about 2x7 inches, the top about 6x9, and the depth about 7 inches. There should be at the very least an inch from the bottom of the body of the wax to the bottom of the partition C. That will make sure that neither wax nor sediment gets under to float out with the honey. The flaring shape is to make the wax remnant easily removable when cooled, and to get the necessary depth without having an undue amount of honey in the separator, which must be there all the time. Possibly a much smaller arrangement will do as well; and if so, the honey and wax remnants always left over from one day to the next would be very nominal indeed. I think mine carries less than 2 pounds of wax, and it has handled well-nigh 200 pounds in a day—would handle much more if it could be melted and delivered to it. Each morning the wax remnant should be removed and put back to remelt. This keeps the sediment from accumulating. The honey remnant need not be changed for days and weeks.

This is a decided success. I feel that I have at last developed at least one invention that will be useful to apiculture.

[While you do not say anything about it in your article, I should imagine the same outfit would be very handy during extracting time. Suppose, for instance, the honey from the honey-extractors ran direct into compartment A; wax cappings, dead bees, refuse dirt of every description, would remain in A until the surplus would overflow at the wax outlet, while the clear, nice honey would pass under the partition C, and flow out of the honey-outlet as shown in the diagram.—EDITOR]—Gleanings in Bee-Culture.

Temperature for Extracting Honey.

If too hot the combs are tender and easily broken; if too cold the honey will not leave the comb. T. P. Robinson says in the Lone Star Apiarist:

If the operator discovers that they are too warm to extract with practicability, just let him place them in a cool place so that they will cool to a point where the combs will be tougher, and then extract and place in the hive where the bees will clean off all honey and redeposit it. It is not a very desirable job to extract when it is too hot. In the hottest summer days, the best time to gather combs is early in the morning, placed in a cool place, and extracted after the bee-heat has departed.

Did you ever extract honey 20 degrees below freezing, just at Christmas? I have, and it is a job, unless you are prepared and know your business. I do not know that I know so much about it, or know my business so well, but here is the way I proceeded to success:

I gathered my combs when it was so cold that a bee dropped to the ground would be as stiff as a poker in 30 seconds, and placed them separately in a closed room and raised the temperature of the room to 115 degrees. I allowed the combs to remain about seven hours in the hot room, and then proceeded to extract them in the ordinary way.

Cuban Honey.

"Rambler" says in Gleanings in Bee-Culture:

As nearly as I can learn as to the Cuban crop for the past year, it has been equal to if not more than the California yield.

I doubt if California ever produced 10,000,000 pounds; but I am credibly informed that, before the War, when there were more apiaries than at present, the product was over that amount in Cuba.

A marked difference in the yields of California and Cuba is that the former often has

failures, but the latter none. The smaller area, then, of Cuba can be put into the front ranks as a producer.

At present virtually all of the honey produced is liquid, and probably three-fourths of it is handled by one firm in Havana. Price prevailing at present is 34 to 37 cents per gallon. This honey nearly all goes to Europe.

As to the quality of the honey, he says:

I must say that Cuban extracted honey will not find favor in the States as a table honey beside California or New York honey. Comb honey will come to the front, and I am sure the States can absorb large amounts of it at fair prices. Cuban comb honey is thoroughly ripened, and fit for table use.

Hives for Wintering.

Editor Doolittle says in the Progressive Bee-Keeper:

Which is best, single-walled hives, those with double walls, or the cellar, for wintering bees? is something which often puzzles bee-keepers, especially those who have only lately entered the ranks. In giving a decision it is all-important that we take into consideration the part that locality plays in the matter. Those who live in the South would naturally prefer single-walled hives, as they are more cheaply made, take up less room, and are made readily and easily movable, when any manipulation is made which requires a changing of hives. Then those who live in the extreme North will prefer cellar-wintering, generally using the same hives as those preferred in the South, as the double hives hardly give protection enough, where winter holds sway from October till April. But where the winters are moderate, and in some other localities where great quantities of snow fall, the the double hives generally give the best results. They are the hives to use in latitude 35 to 40, where they sometimes have a week or more of weather when the thermometer will register zero, or a little below; but the rule is "open weather," with the bees flying occasionally all winter

Here [New York] the single walls are hardly sufficient for the zero weather, and the temperature of the cellar will run too high for the comfort of bees during the warm spells, they becoming uneasy, and flying out on the floor by thousands to die, while, if in double hives outdoors, they would get beneficial flights. In this matter, as in all others, the ground should be carefully gone over before making a decision. In my locality, 42½ degrees north latitude, the winters, as a rule, are continuously cold, and here the cellar gives the best results, because the cellar can be kept at an even temperature, or very nearly so. This means also light consumption of stores, and comparatively few bees dying during the winter.

A Post Check—Good Idea.

Congress is attempting to perfect a design for currency intended especially for transmission through the mails, and the active people of the country wish it a success. The committees on post-offices and post-roads have before them a measure providing a Post check in denominations of five dollars and under, down to the denominations of fractional currency. It is proposed to retire the five, two, and one dollar bills now issued by the Government, and substitute the Post check, and make the latter the regular paper money for those denominations. The Post check was devised by Mr. C. W. Post, a prominent and public-spirited citizen of Battle Creek, Mich. He was assisted in its perfection by a number of publishers, and the plan has been earnestly endorsed by the American Newspaper Publishers' Association.

The general appearance of the Post check is that of the present one or two dollar bill. On one side are blank lines upon which the holder may write the name and address of any one to whom he desires to make payment by mail. The payee, upon receipt of the money, attaches his signature and collects the money at the office named. To forge the signature of the payee is a penitentiary offense, same as counterfeiting. As rapidly as the signed bills come into the possession of postmasters they are sent to Washington for redemption. So that, by this process, one can carry about his person paper money in various denominations under five dollars, and it passes as good as gold. Should he desire to make remittance by mail, he simply takes out a bill or piece of fractional currency, writes the name of his creditor, affixes and cancels a stamp, and it only requires the signature of the latter to again make the money as good as gold at the office named.

Since the adoption of rural mail delivery, and our farmers are making so many mail orders, our rural friends will be greatly interested in this proposition, and they would do well so to express themselves to their Senators and Representatives in Congress. The design has been dedicated to the Government, so that no individual can selfishly profit by the adoption of the "Post Check."

Hon. Perry S. Heath, now the editor of the Salt Lake Tribune, and writer of the above, was First Assistant Postmaster General under the McKinley administration. The Money Order Service was under his supervision, and he speaks with expert knowledge of all matters pertaining to the transmission of money through the mails. His cordial endorsement of Post Check Currency carries great weight. It is a thing that should be adopted at once by the Government. We hope Congress will soon act favorably upon it.

Difference in Locality.

This was brought out in the discussions at the Ontario convention, as reported in the Canadian Bee Journal. Mr. Chrysler said:

I have managed the Heddon hives for two or three years without a swarm from them, or I might say, even queen-cells. I take probably three brood-chamber sections when fruit-bloom is on, and, when the queen has pretty well filled the two sections, I take the empty brood-chamber and set under the other two, and take one of the upper ones and put a queen-excluder between it and the next one, of course putting the queen below. What honey is gathered as a general rule will be put in the top brood-chamber, and as the bees are being hatched out that will be filled with honey; and by the time that is pretty well filled you can generally put an extra super under of extracting-combs.

Mr. Hall—Mr. Chrysler's plan succeeds with him, but if he comes to Oxford county it won't succeed.

Mr. Gemmill—If he comes to Stratford he won't succeed. I have had them swarm with the queen having the use of five of those half-hives, as you call them; and on a half story of foundation; giving them all the room they wanted. I have had them swarm in eight days from that. Circumstances alter cases.

Mr. Hall—You can give no regular rule for any locality. We have bees in three localities; if the man that ran the east one would run them the same as the other two he would run them into the ground, and they are only nine miles apart. We are all of us confident what we will do with bees, and what they will do with us, but we never take into consideration the locality, and, sometimes, it is the race of bees.

The Ethical Side in Apiculture.

Bessie L. Putnam, speaking of the bond of good-fellowship existing among bee-keepers, says in the American Bee-Keeper:

Old-time contributors have given through the various mediums not only valued experiences but glimpses of their own personality. And it is one in which kindliness, gentleness, and patience are dominant characteristics.

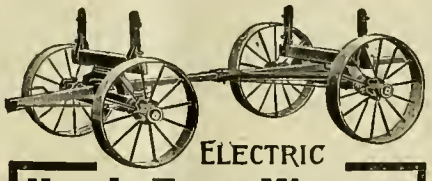
So wide-spread are these traits that we feel impelled to seek a more explicit explanation than mere co-incidence. There is a natural sequence in all things; and if we but analyze the qualities which make the good apiarist, contemplate the phases developed by his

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 20 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. 200 tested reared last season ready to-day Contracts with dealers a specialty. Discount after July 1st. Send for circular.

JOHN M. DAVIS,
14A26t SPRING HILL, TENN.
Please mention Bee Journal when writing.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.



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Handy Farm Wagons
make the work easier for both the man and team. The tires being wide they do not cut into the ground; the labor of loading is reduced many times, because of the short lift. They are equipped with our famous Electric Steel Wheels, either straight or stagger spokes. Wheels any height from 24 to 60 inches. White hickory axles, steel bounds. Guaranteed to carry 4000 lbs. Why not get started right by putting in one of these wagons. We make our steel wheels to fit any wagon. Write for the catalog. It is free.
ELECTRIC WHEEL CO., BOX 16, QUINCY, ILL.
Please mention Bee Journal when writing.

SWEET CLOVER
And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6 00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	1 00	1.80	4 25	8.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.
Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.
Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

DAIRYMEN ARE DELIGHTED
to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.
Please mention Bee Journal when writing.

ITALIAN QUEENS and the WARFIELD STRAWBERRY ...

D. J. BLOCHER, Pearl City, Ill.
Ask for our price-list and testimonials.
As we are spending the winter in North Dakota, all our correspondence, whether social or business (until further notice) should be addressed,

D. J. BLOCHER, Denbeigh, N. Dak.
4Atf Please mention the Bee Journal.
Please mention Bee Journal when writing.

thoughtful life, it is not difficult to understand why he is also a good citizen.

Systematic study of his little charges, patience, punctuality, neatness, gentleness, are indispensable. Routine work may apparently succeed for a time; but the perplexities and emergencies sure to come up sooner or later call forth originality of thought and a thorough understanding of the habits of bees.

Did you ever see a really successful beekeeper who was not something of an enthusiast over his pets? Who did not enjoy working with them? To him their methods of housekeeping, brood-rearing, and the gathering of supplies have an interest higher than that of purely mercenary gain. The construction of the cell, the "bee-line" to and from the distant clover-field, the evident recognition of strangers, these and many other traits point to a higher order of intelligence than is usually accorded to insect life. While much has been written about them, there are volumes yet to be learned. Surprising incidents are of frequent occurrence if we but note them. Those who know the bee understand that it does not go about seeking whom it may sting, but simply attends to its own business, and bravely resents the intrusion of others.

Careful study of the bee increases our interest in it, our respect for it. And the awakening of love and kindliness toward the lowest of God's creatures naturally extends to His masterpiece—man.

GENERAL ITEMS

Wintering Experiment.

I tried an experiment the past winter by putting 8 colonies of bees into my cellar in the same room with the furnace, and took them out March 14, all in good condition.

C. B. HOWARD.

Seneca Co., N. Y., March 20.

Getting Extracting-Combs.

On page 198, C. D., of Michigan, asks: "How do you have your extracting-combs built? In the surplus case or in the brood-chamber?" I wish C. D. to try my plan with at least one colony in a three-story hive.

As soon as his colonies are strong and honey coming in, see that the middle story is the brood-chamber. I use ten-frame three-story Langstroth hives for extracting, nothing less, and am never troubled with swarming. Furnish the upper story with eight combs for extracting, using combs having the most drone-cells. Now see that you have six good worker-combs in the middle story, and in the center insert an empty frame between two frames of brood and sealed honey, and you will be surprised how soon you will have new worker-combs built, and without starters. In the lower story have at least five combs, alternating them with empty frames to secure straight work. As the combs above are filled with honey and brood, the bees will work below. I think Mr. Dadant might see some advantage if he would give my plan a trial—unless he prefers frames of different sizes.

Lucas Co., Iowa. GEO. W. RIKER.

A Report—Laying Workers.

I started in with 20 colonies of bees in 1901, and increased to 80 colonies, and got 2000 pounds of honey.

1900 was a failure for honey; I had only 20 colonies out of 100 last spring to start with. I have 84 good colonies to start with this spring, and they have plenty of honey. I expect to increase up to 200 colonies this season.

We have had some zero weather in March.

I hear a great deal about drone-layers and laying workers, and what to do with them. I have looked and sweated for hours looking for laying workers and drone-layers, and then I would hitch the team and drive seven or eight miles to some bee-keeper and ask him more questions about laying workers than some 10-year-old school boy, and I would try to introduce nice queens, and the old bees would kill them as fast as I put them in.

The best way to do with such bees is to carry the hive away from the bee-yard and shake them out of the hive, and let them fly back to the yard and take up with the other bees. Life is too short to fuss with them.

G. W. NANCE.

Woodbury Co., Iowa, March 31.

Queens you should Have

Does blood tell in other stock? Give your bees a chance. Stock used for breeding the queens offered—not from a sport, but my pick out of an apiary giving last season an average yield as follows:

Honey-Gathering.

102 lbs. extracted and 68 lbs. comb honey per colony besides increase and stores for winter.

Quality of Comb-Honey Produced.

"Man! It would dazzle you."—Wm. Envoy, Ontario Government Inspector of Apiaries.

Wintering Qualities.

Up to the present (January 30) I never found these bees to show the least indication of unrest—always perfectly quiet. They are wintering perfectly.—Frank T. Adams, Brantford, Canada.

General Commendation.

Out of those queens you sent me I have produced the best race or strain of bees I ever owned. Remember that is saying a lot, as I have tried every breed imported in this country. The bees winter better, build up, and stand cold chilly winds in spring better, and are more suitable than any bees I ever owned. For the season they gave me about double the honey the pure Italians did, and more increase. Glad you are going into the queen-business, and are going to join the ranks again. We are much in want of a few men like you. C. W. Post, Ex-president Ontario Bee-keepers' Association (owns 365 colonies).

S. T. Pettit, Canada's most successful comb-honey producer and bee-keeper, says: "The blood in my apiary is largely the progeny of queens sent by you, and they are grand bees."

Prices of Queens.

They are duly free to the United States. Tested, $2.00 each; $10.00 for 6; $18 00 per dozen. Untested until July 1, $1.25 each; $7.00 for 6; or $12.00 per dozen. Same after July 1st, $1.00 each; $5.50 for 6; or $10 00 per dozen. Larger quantities, prices on application. Postage stamps taken for fractions of a dollar. To be fair to every one, no selected tested queens are offered. Every one has the same chance. The above queens are bred from a careful selection of Italians and Carniolans. Pure Italian and Carniolian queens same price. Price of full colonies on application. Orders booked as received, and filled as quickly as possible. Order early.

Address, **R. F. HOLTERMANN,**
Bow Park Co., Limited, Brantford, Ont., Canada
9D8t Please mention the Bee Journal.

$5 INCUBATORS FREE 50 EGG SIZE
Self regulating. Guaranteed for 2 years. Hatches every good egg. Send for catalogue No 63. Sell six and get one free.
INVINCIBLE HATCHER CO., SPRINGFIELD, OHIO.

$300,000,000.00 A YEAR
and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. **Draper Publishing Co., Chicago, Ill.**

Please mention Bee Journal when writing

"Free Trial Proposition."—There is a certain something about the "free trial" proposition that makes it attractive to even the person who is accustomed to buy for cash. Formerly the "free trial" idea was limited entirely to trial by sample, and only such merchandise as could be sampled were subject to "free trial;" matters have been changed quite materially, however, within the past few years, and now many things may be had on "free trial" terms. It remained for the Kalamazoo Carriage and Harness Mfg. Co., Station 33, Kalamazoo, Mich., to introduce the principle of "free trial" in the selling of the output of their large factories. They advertise in our paper to send any buggy, carriage, trap, surrey, harness, etc., which they make, to any purchaser on "30 days free trial," and they lay just claim to being the "Pioneers of the free-trial plan." They not only give that length of time in which to test the vehicle, but they at the same time sell it to the buyer at manufacturers' prices. That they do these two things, and that they give the best of satisfaction is true beyond doubt, as we have never had a single complaint from our readers, many of whom must have embraced their offer.

Those of our readers who have not yet bought a vehicle or harness, will do well to write the Kalamazoo people requesting their 22d annual catalog. It is fully illustrated with each article offered, and is almost sure to contain just what you are looking for. Please mention the American Bee Journal when writing them.

Basswood and Pine Frames.

Ten years ago I made some brood-frames, using basswood for some and yellow pine for others, of V-shaped top-bars. I can see no evidence of wax-worms on either the poplar or pine, but plenty on the basswood. Why things are so different with me than they are with Mr. Niver I do not know, but I suppose it is caused by the difference in "location." With him they "located" in pine; with me in basswood. A. ZIEGLER.

Huntington Co., Ind., March 17.

Don't Get Excited Over "Futures."

We have been having some very nice rains, and the present prospect is that we will have some honey, but I do not think any one is justified in getting excited over "futures."

I may give a report later on of my last year's crop, and if you think it would be appreciated, some of my observations, experiences, failures and successes.

J. W. GEORGE.

Riverside Co., Calif., March 15.

[Certainly. Send on you report, etc.—ED.]

Moving Bees—A Hopeful Bee-Keeper

I shipped 31 colonies of bees from Taylor Co., Iowa. to Wyandotte Co., Kans., in March. They came through in good shape. I left the winter-cases on in shipping, and have not removed them yet.

My average yield of honey last year, in Iowa, was 60 pounds per colony, spring count. The prospect does not look very bright for a honey crop at present, as there is very little white clover to be seen coming now, but it may come later. Part of a bee-keeper's living is "hopes," and we are living in hopes of a good season this year. BERT GARDNER.

Wyandotte Co., Kans., April 1.

Bounteous Returns Expected.

It has been snowing or raining here nearly the whole of this month, and over nearly the whole State. The outlook for a good honey-flow, and for good farm crops, is very encouraging. A plentiful supply of irrigation water is the main thing, and, having secured that, our farmers and bee-keepers are anticipating bounteous returns for their toil this season. E. S. LOVESY.

Salt Lake Co., Utah, March 27.

Bees in Fine Shape.

Bees are in fine shape this spring, having plenty of honey to carry them through brood-rearing. J. F. HUNTER.

Morrison Co., Minn., March 26.

Colonies Seem Strong and Active.

I hired a man yesterday to put my bees on the summer stands; they seem very strong and active. They went into the cellar the first of December, and never had a flight until to-day. The temperature of the cellar was from 35 to 40 degrees. D. C. WILSON.

Linn Co., Iowa, March 28.

Packing Bees for Winter.

On page 164, Ira D. Bartlett is reported as packing his bees for winter by putting on a piece of carpet, kiln-dried planer-shavings, two inches kiln-dried sawdust, then eight inches of planer-shavings. How many inches of planer-shavings does he put next to the carpet? Why does he put in the layer of

sawdust? Why not all planer-shavings or all sawdust?

I note that on page 171, C. J. Ohlenburg puts 13 inches of chaff over the frames, thus agreeing in great depth of packing with Mr. Bartlett. TURNER BUSWELL.

Somerset Co., Maine.

[Will Mr. Bartlett kindly send answer to the above questions for publication?—ED.]

Worst Storm in Years.

We have been visited in this part of the country with the worst storm in years. It raised havoc with the bees, but we have the scaffold up around here on the river bottom and also on the Tule. One man lost 200 colonies, another 120, another 90. As for myself, I saved the most of 47, but some of them are rather light. You see, the country was flooded with water at the time we had the storm. N. T. FRANCIS.

Sutter Co., Calif., March 17.

Loss Due to Honey-Dew.

Our bees came through rather poorly this spring, with a loss of 20 percent, the worst in 10 years, all due to honey-dew and protracted cold weather. EUGENE HAMBAUGH.

Brown Co., Ill., March 31.

Went Like Hotcakes

A Nebraska customer when ordering a new supply of our fine Alfalfa honey in 60-pound cans, said: "The last I got went like hotcakes." So it does.

More people might do well hey would order this honey, or basswood, and sell it. It not only goes off "like hotcakes," but it is mighty good on hot cakes.

See honey-offers on page 234.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

BEE-SUPPLIES!
ROOT'S GOODS AT ROOT'S PRICES.
Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.
WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

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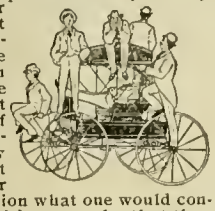
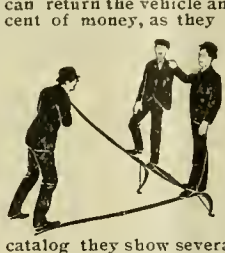
FENCE! STRONGEST MADE. Bull-strong. Chicken-tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO., Box 89 Winchester, Indiana, U. S. A.

47Dtf Please mention the Bee Journal.

SPLIT HICKORY
YOU CAN BEND IT BUT YOU CAN'T BREAK IT.

This heading is used in one of the advertisements of the Ohio Carriage Manufacturing Co., of Cincinnati, Ohio. They manufacture and sell to the consumer, the now celebrated "Split Hickory" line of vehicles. Unlike any other carriage concern in the country, selling direct to the user, they advertise and sell this special line only. They do not sell to jobbers or dealers; so if you want a "Split Hickory" vehicle the only place where you can buy it is from this concern. They make the bold statement that there is no other line of vehicles sold for anywhere near the money that is as good as "Split Hickory," and they offer as a proof of this assertion what one would consider a most fair proposition, namely, that they will send any of their vehicles anywhere in the United States on 30 days' free trial. If at the end of 30 days the purchaser is not satisfied, he can return the vehicle and will not be out one cent of money, as they pay the freight both ways in case the job comes back.





One thing is very evident, and that is they have abundant faith in their goods. Their elaborate new catalog, which is just off the press, illustrates and fully describes over 100 specially designed exclusive patterns. In this catalog they show several tests to which they have put their vehicles to prove the strength of the material used in their construction. Two of these illustrations we here reproduce. They also reproduce photographs of people who have purchased their vehicles and have given them testimonials. This is a very clever way of proving that the testimonials are genuine. The vehicle illustrated in this article is their top-buggy which has all late improvements, and the price is a genuine surprise. Any of our readers who are thinking of buying a vehicle this season, will do well to write to this concern for their catalog, which is mailed free upon application.

Address, Ohio Carriage Manufacturing Company, Station 6, Cincinnati, Ohio.

NOTE.—This firm offers some fine buggies as prizes to people who send names of persons about to buy a carriage or harness. You should send for plan and list of prizes. You might win one. Please mention the American Bee Journal when writing them.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 19.—There is continued depression in the trade owing to light output on the part of retailers and the desire on the part of those having stock on hand to dispose of it. The past two weeks have noted a further decline in price of comb honey, with the exception of basswood, which is scarce and wanted at 2 to 3 cents above any of the other white grades; it now brings 14@15c; alfalfa and other fair white, 10@13c; ambers, 8@10c. White extracted dull at 5¼@6½c; ambers, 5¼@5¾c; Southern and dark, 5@5¼c. Beeswax scarce at 30c. R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH CO.

ALBANY, N. Y., Feb. 21.—Our market has not been so empty of comb honey in a long time. Fancy white comb, 15@16c; No. 1, 15c; dark and buckwheat, 13@14c. Extracted, buckwheat, 6c. Beeswax, 30c. H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c; Florida honey, in barrels, 6@6½c. BLAKE, SCOTT & LEE.

BUFFALO, March 28.—Buffalo is very quiet on honey, except very low grades at very low prices. We quote extra fancy,1 4c; No. 1, 12@13c; other grades, 8@10c. Extracted, 5@6c. Beeswax scarce; fancy, 28@30c; dark, 22@25c.
BATTERSON & Co.

DETROIT, Feb. 20.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.
M. H. HUNT & SON.

CINCINNATI, March 7.—The general tone of the honey market is lower. Water-white comb honey sells from 14@14 c; it is hard to obtain 15c for extra fancy. Extracted has weakened a little, and sells at 5@5½c; fancy, from 6@6½c.
C. H. W. WEBER.

NEW YORK, March 8.—Comb honey is now pretty well cleaned up, and what remains on the market is nearly all fancy and No. 1 white honey. The demand is fairly good at following quotations: Fancy white, 14c; No. 1, 13c; No. 2, 12c. Extracted remains dull at unchanged prices with plenty of supply. Beeswax firm, 29c.

We have just received the first large shipment of comb honey from Cuba; some in tall sections, packed 20 combs to the crate and some in square sections packed 32 combs to the crate, glass front on one side, plain, no-bee-way section. The honey was packed in shipping-carriers, containing 8 of the large and 9 of the small crates respectively, and arrived in first-class condition. The flavor of this honey is very fine, and as to the quality—some of it is fancy white, while others is of a yellowish tint.
HILDRETH & SEGELKEN.

SAN FRANCISCO, March 12.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

While spot stocks are of rather light volume, holders show more inclination to unload than they did a month ago. Although quotable values are without marked change, concessions are granted to buyers which would not have been thought of at the beginning of the year. A large proportion of the honey now offering is comb of medium grade.

WANTED. EXTRACTED HONEY—either large or small lots; parties having same to offer, send samples, and best prices delivered at Cincinnati, Ohio. We pay cash on delivery. THE FRED W. MUTH CO.,
10Atf Front and Walnut Sts., CINCINNATI, O.
Please mention Bee Journal when writing

1902—Bee-Keepers' Supplies!
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich
Please mention Bee Journal when writing.

200 Nuclei and Full Colonies For Sale.

We have arranged with a good bee-keeper located in Kankakee Co., Ill., (within 12 miles of Kankakee), to fill orders for Nuclei and Full Colonies of Bees. All are to be first-class, and most of the bees show Italian markings. The queens in the Nuclei will be Italian, of this year's rearing. Full colonies can be shipped now; the Nuclei beginning May 1. We can book your orders for Nuclei now—first come first served.

The Nuclei are 3-frame Langstroth, in light shipping-boxes. Prices: 1 for $3.00; 5 at $2.75 each; 10 or more, $2.50 each.

Full colonies in 8-frame Langstroth hives (no super.) Prices: 1 for $6.00; 5 or more at $5.50 each.

All are f.o.b. shipping-point, and will be sent by express, a postal card notice being mailed to each purchaser a day or two before shipping the bees.

Send all orders to **GEORGE W. YORK & CO.,**
144 & 146 Erie Street, CHICAGO, ILL.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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Standard Belgian Hare Book!

BY M. D. CAPPS.

THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

Price, in handsome paper cover, 25 cents, postpaid; or with the American Bee Journal one year—both for only $1.40.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
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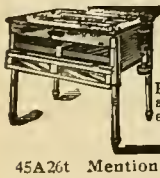

200-Egg Incubator for $12.80

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

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Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

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25th Year **Dadant's Foundation** 25th Year

We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? Because it has always given better satisfaction than any other. Because **In 24 years** there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

Bee-Keepers' Supplies OF ALL KINDS *****

Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

Langstroth on the Honey-Bee—Revised,

The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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THE DANZENBAKER HIVE

The best comb-honey hive on the market may be obtained of The A. I. Root Co., of Medina, Ohio; at any of their branch houses, and many of their local and jobbing agencies. Send to the address nearest you, and save freight, and get quick delivery.

Branch Offices.

The A. I. Root Co., 10 Vine St., Philadelphia, Pa. Wm. A. Selser, Manager.
The A. I. Root Co., - - - Syracuse, N. Y. F. A. Salisbury, Manager.
The A. I. Root Co., - - Mechanic Falls, Me. J. B. Mason, Manager.
The A. I. Root Co., 1024 Miss St., St. Paul, Minn. H. G. Acklin, Manager.
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The L. A. Watkins Mdse. Co., - Denver, Colo.

Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.
THE A. I. ROOT COMPANY, Medina, Ohio.

GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market.

J. B. MASON.
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.

M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.

THE A. I. ROOT CO.,

MEDINA, OHIO, U.S.A.

☞ **GEORGE W. YORK & CO.,** 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., APRIL 17, 1902.

FORTY-SECOND YEAR
No. 16.

WEEKLY

R. C. AIKIN,

Newly-Elected Director of the Nat'l Bee-Keepers' Association.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

EDITOR—George W. York.
DEPT. EDITORS.— Dr. C. C. Miller, E. E. Hasty.
SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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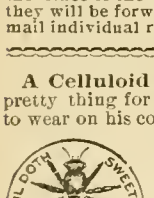
MEMBERSHIP DUES, $1.00 a year.

☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Abbott, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

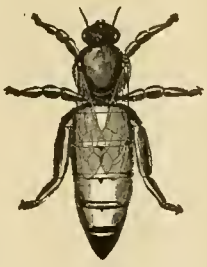


NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal

FOR GETTING NEW SUBSCRIBERS.



Red Clover Queens
FOR 1902 FREE!

Long-Tongue Variety—Warranted Purely Mated

We have arranged with the queen-breeder who furnished Long-Tongue Red Clover Queen for us during the season of 1901, to fill our orders this season. Although fully 95 percent of the untested queens he sent out were purely mated, this season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most excellent reports from the queens we supplied last season. And this year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

Orders for these fine, "long-reach" Warranted Queens will be filled in rotation—"first come first served"—beginning as early in June as possible. It is expected that orders can be filled quite promptly (even better than the past season), as a much larger number of queen-rearing nuclei will be run. (But never remove the old queen from the colony until you have received the new one, no matter from whom you order a queen).

All Queens will be guaranteed to arrive in good condition, and will be clipped, unless otherwise ordered.

A Warranted Queen for Sending us only TWO NEW YEARLY SUBSCRIBERS.

In order that every one of our subscribers who wants one of these Warranted Queens this season can easily earn it, we will book your order for one queen for sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00; or for sending us *one new* subscription and 30 cents more (or $1.30), we will mail you a queen; or send us $1.60 and we will credit your own subscription for one year, and mail you a warranted queen.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., APRIL 17, 1902. No. 16.

Editorial.

A New Director of the National Bee-Keepers' Association has just been elected to succeed Mr. Abbott, who resigned as director to take the position of General Manager. The new director is Mr. R. C. Aikin, of Colorado. This is an excellent choice, and should give unanimous satisfaction to all the bee-keepers of the great Middle West.

National Association Notes will be furnished to the various bee-papers by General Manager Abbott from time to time. His first "batch" appears on page 248. This is a good move, and will help the membership to keep in close touch with what is trying to be done by the Association. If you are not now a member, send your dollar at once to Mr. Abbott, and get in line to help the whole bee-keeping industry as well as yourself.

One Colony Continuously Starting Cells.—After a colony has been queenless for a considerable time, it can not be counted on for doing good work at starting queen-cells. But by the right management there need be no difficulty in having good cells continuously started throughout the entire season in the same hive, if not entirely by the same bees. All that is needed is the addition from time to time of frames of brood. This has a two-fold effect: It keeps up the supply of young bees, and also furnishes young brood to be fed, thus keeping up the preparation of a bountiful supply of the right kind of nourishment for the prospective queens.

Next National at Denver.—We have received the following notice from Pres. Hutchinson, announcing that the executive committee have selected Denver:

THE NEXT NATIONAL CONVENTION TO BE HELD IN DENVER.

Denver, Colo., has been selected as the place for holding the next meeting of the National Bee-Keepers' Association. Time—the first week in September. The exact date has not been decided upon, but the first session will probably be held Tuesday evening or Wednesday morning. The West has several times asked for the convention, and been put off with promises—that we must follow the G. A. R., or something of this sort, in order to secure the needed reduction of railroad rates. This year the G. A. R. meets at Washington, away to one side of the country. We met there several years ago, and only about 20 members were present—the most of those from near by. The West has been going ahead with great leaps and bounds, and can rightfully claim recognition. The Colorado State convention, last fall, was the equal of many meetings of the National Association. And in all probability the Colorado State Bee-Keepers' Association will meet with us in joint convention. If held at Denver, the bee-keepers of Utah, California, Texas, and all of the great West will be able to "get there." I firmly believe that a convention can be held at Denver that will be the equal of any ever held.

Of course, the first question asked will be: "What about rates?" Well, they are all satisfactory, or, of course, we could not go to Denver, as a convention without low rates on the railroads was never a success. The National Letter Carriers' Association holds its annual convention in Denver during the first week in September, and an open rate to everybody will be made at that time. A representative railroad man told Mr. Working (the Secretary of the Colorado State Bee-Keepers' Association) that the regular fare outside of Colorado would be one fare, plus $2.00, for the round trip, with a regular rate of one fare for a round trip in Colorado; while there have been made some specially low rates from some points in the East. From Chicago the fare will be only $25 for the round trip. From St. Louis it is $21. From St. Joseph, Kansas City, and Omaha it will be only $15. Rates from points still further East have not yet been definitely settled.

Bee-keepers in the West will need no urging to come; to the bee-keepers of the East I will say, take the trip. It will open your eyes, not only in regard to bee-keeping, but to the wonderful possibilities of the great West. Your tickets will give you all of the time you wish to see Colorado's wonderful mountain scenery — "The Switzerland of America." Don't miss this opportunity of seeing its wonders, and mingling with its bee-keepers—the men and women with great, big hearts.

W. Z. HUTCHINSON, *Pres.*

We are glad that Denver has been selected. This choice will not be regretted, for those hustling Colorado and other Western bee-keepers will simply do their best to have even a bigger and better convention than Chicago ever had; and if they succeed (and we believe they will), none will be more delighted than those who helped to make the last National such a great success in this city, in 1900.

Remember that Denver is the place, and the first week in September the time.

Another thing: Don't fail to plan to go. There is ample time for everybody to get ready to attend the convention. And those Denver bee-keepers will need to make large preparation for the crowd, in addition to furnishing a generous sample of their fine climate.

The Formation of Nuclei seems to be considered by some as a complicated affair only to be undertaken by those of much experience. In reality there is nothing mysterious or difficult about it. Any one can take two or three frames of brood with adhering bees and put them in a hive and set the hive on a new stand. That makes a nucleus, and the only difficulty in the case is to make sure that the queen is not taken along with the bees, and to make sure that too many bees will not return to the old hive. Some guard against the latter by imprisoning the bees for a certain length of time before putting them on the brood. Some do the imprisoning after forming the nucleus, closing the entrance tightly with green leaves. Within two or three days the leaves will shrivel so as to allow passage for the bees if the bee-keeper himself does not open the entrance.

Some take no precaution except to use for the nuclei bees that have been queenless two or more days. Queenless bees are much better than others as to staying where they are put. Take two or three frames of brood well covered with bees from a queenless colony, and put them in an empty hive, and the work is done. If you want to make more sure, you can brush in some extra bees, or you can fasten the bees in for 24 hours.

Manufactured Comb Honey Again.—Last month we received the following communication from Rev. A. E. Taylor, of York Co., Pa.:

EDITOR AMERICAN BEE JOURNAL.—

Dear Sir:—I clipped the enclosed from the Philadelphia Record some weeks ago:

"It was recently announced in a Chicago paper that a car-load of manufactured honey, in the comb, had been received in that city from California. In reply to this the publisher of the American Bee Journal has offered $1.000 for the sight of a single pound of manufactured comb honey. He adds that he has been making this offer for 20 years without finding a taker."

I send it, first, to say that I manufacture comb honey; and, second, to say that you had better call in your offer, if you made such, as some one may claim it. I do not claim any reward.

I manufacture comb honey because—first, I get honey in that way, whereas I would get none otherwise; and, second, I get a better product.

You may, if you wish, inquire of W. H. Huntzgurger, principal merchant of our town; Dr. J. C. Channell, Mr. S. C. Kocker, Geo. Weitzel, or H. L. Keller.

Respectfully, A. E. TAYLOR.

Upon receipt of the above, we wrote Mr. Taylor, telling him he was just the man we were looking for; we also enclosed 40 cents in stamps for two sample pounds of his "manufactured comb honey," and asked him to forward them, securely packed, by express at our expense, or return the stamps. In a few days we received the following:

MESSRS. GEORGE W. YORK & CO.—

Yours of the 6th at hand. I do not pretend to "manufacture comb honey by machinery, without the aid of bees." That would imply that I am a creator or secreter of wax, and I

do neither; that I construct comb; that I make a chemical change in the compound of sugar and fruit, which I give them, into honey. It would be as if a ranchman raised cattle without breeding-stock. Such an effort would result as did Aaron's effort at making a god.

You would be safe in adding six units to your offer, for since the world began man hath created nothing; nor hath he entered into the secret of insect architecture; all the paper-makers together could not make one horuets' nest.

I prepare the material out of which bees give me a product which the best judges of honey pronounce superior to the natural product in both taste and keeping quality.

Enclosed please find stamps returned as per request. Respectfully,

A. E. Taylor.

And so endeth another boaster. In his first letter to us he distinctly said, "I manufactnre comb honey." In his reply he says: "I do not pretend to say I manufacture comb honey," etc. We wouldn't care to be compelled to sit under *his* preaching, and help pay for keeping him alive. He belongs in the mistaken crowd instead of the Taylor family. But, thank the Lord, there are few such as he among the preachers.

But we will not "call in" that offer of $1000 just yet. We prefer to wait and let a few more ignorant ones bite on it. It's pretty good bait—a genuine offer. And we are not afraid of being called on to pay the money, because there is no such thing as manufactured comb honey—made without the aid of bees.

Weekly Budget.

Mr. Ward Lamkin, of Cayuga Co., N. Y., passed through Chicago recently on his way to Colorado, where he contemplates purchasing and keeping bees. He left his 200 colonies in splendid condition at his New York home, and in good hands for the season.

Mr. F. K. Schalow, of Kern Co., Calif., was in Chicago lately, to dispose of a car-load of extracted honey which his firm (Weems & Schalow) had produced last season. They have about 1000 colonies, and their crop in 1901 was about 70,000 pounds. Mr. Schalow was formerly from Wisconsin, but prefers to live in California now.

An Arkansas Apiary is thus described, as well as its owner, by a friend:

Mr. S. M. Campbell, of Crawford Co., Ark., requested me to write about his success in bee-culture and send it for publication. This will show what can be done if a person just tries.

Mr. C.'s home is high up on the mountain, and a wearisome drive it was to get there. It is only four years since he settled on this place, cleared the land for cultivation, and brought with him 3 colonies of bees and 26 Langstroth hives. His former employer, Mr. Hayworth, from whom he got the bees and hives, saw no profit in them, as he said that one year they are a feast and another a famine; he wanted to go into chicken-raising, and told Mr. Campbell that if he would hew the logs for a chicken-house he could have the bees, hives and all, for the work.

Mr. Campbell had some knowledge of bees in the old-fashioned way, that is, in log-gums, which were always plentiful on his father's place, and supplied their own table and many of the neighbors with honey; and, of course, he knew that if bees were handled rightly, well taken care of, they would yield a handsome profit, and therefore the bargain was closed.

The logs were hewn in three days; 4 more colonies were added to the lot, making 7 in all to begin with. The first year he took 600 pounds of section honey, and increased to 13 colonies; the honey sold for 10 cents a pound.

The following year was a failure, but the bees stored enough honey to winter them. In the meantime Mr. Campbell had studied up bee-culture. It opened his eyes and gave him new courage not to forsake but stick to the bees, as a good year would surely come again, and would prove that his bees were a profitable investment. Mr. Campbell says the "old reliable" American Bee Journal is surely worth its weight in gold to the bee-man.

The following year the bee-yard was looking fine, with 30 strong, hard-working colonies; the season was good, and an average of

Apiary of S. M. Campbell, of Crawford Co., Ark.

72 pounds of section honey per colony, with an increase of 30 colonies, resulted. That was a feast after the famine.

By this time Mr. Campbell began to handle bees in the practical and profitable way; he had studied their ways and doings, and it became a duty performed with pleasure, as he said. Bee-study is the finest study a person can get into.

The year 1900 was a poor one in this part of the country. To begin with, in the spring the bees did well, and the prospects were for a good season, but the dry weather of late summer and fall cut short the honey crop, and therefore they stored only 35 pounds per colony, and increased to 74 colonies.

In the meantime, Mr. Campbell hitched on to chickens, thinking a little side-line would not hurt, and might bring in a few dollars; or, as the good woman said, some pin-money; but the hawks, the owls, and the cholera, came, and got the pin-feathers, and of course forgot to leave the money for the pin-money, consequently the chickens were dropped, except what are needed for home use.

The year 1901 was started with 108 colonies, and over 3500 pounds of honey was taken off, and still they are working hard to close the season with a yield of 5000 pounds, by gathering the honey-dew from the hickory trees, from which it is just dropping to the ground.

This morning (Oct. 27, 1901), at early dawn, as we sat watching them coming in heavily laden with the sweet dew which they had gathered so early, and in fact as busy as little bees, they fairly fell down in clusters at the front of the hive, crowding each other to get in to unload and be off for some more.

Section work in this apiary is done away with, and all the honey is put up in half-depth frames, cut out and sold as bulk comb honey in from 1-pound to 50 pound cans. In this way one can get two supers to one of section honey, and obtain the same price here, with a great deal less work.

Mr. C.'s plan is to tier up as long as they work, by raising the super when two-thirds full, and placing the empty one next to the brood-nest. Sometimes there are as many as six supers on one hive. In hot weather the hives are raised from ½ to 1 inch, according to the strength of the colony, and covered with light boards for shade, as they work much better, and it also keeps the combs from melting down.

Mr. C. gives the bee-papers and books on bee-culture due credit for his success. There are some people not far from this place who also keep bees and give their ideas about bee-papers in this way: "Mr. C. had better save his money that he yearly squanders in books and papers, and invest it in hogs; it would profit him more." Those people did seem to know all about bees, and perhaps invested their money in hogs, but so far as the writer could see they have neither hogs nor honey, and a mighty sorry looking bee-yard.

Mr. Campbell is also a member of the National Bee-Keepers' Association, and therefore feels safe in regard to spraying, and whatever may come up, and would encourage every bee-keeper to join the Association.

The picture shows Mr. Campbell's home yard. The man with the smoker is Mr. C., the little girl "Fanny" is the keeper of bees in swarming-time; Gibson, who stands on the hive, takes a great interest for a small lad—he has a colony of his own, and some day may make a bee-man. A Friend.

Sweet Clover—(To the Mossback.)

Yes, cut and slash sweet clover down—
Don't stop to ask its name;
Call it a weed and grub it up,
And throw it in the flame.

Let bigotry and ignorance
Have now their fullest sway;
Don't stop to get a new idea,
But mow the plant away.

Let fragrant ragweed, burdock sweet,
And prickly lettuce grow;
It wreathes the mossback's face with smiles
To see such things, you know.

Just find the rut that father trod,
And be content with that;
He always cut sweet clover down,
And that is what we're at.

—Gleanings in Bee-Culture.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 229.)

GROUND CORK FOR WINTER PACKING.

"Is ground cork as good, or better than sawdust for winter packing?"

Mr. Coggshall—Where can ground cork be obtained?

Dr. Miller—Wherever they sell grapes that are imported from California.

Mr. Coggshall—It is safer than sawdust, but it is hard to obtain. I have been inquiring for a year or two.

Mr. Chapman—There is a place here in the city where they manufacture corks. But I get my supplies entirely where Dr. Miller suggests—from the grocer. I get it from the imported grapes that come from Spain—they come in casks. I find it is an excellent material. It is impervious to moisture and allows for considerable circulation of air. I find it an excellent packing material, the best that I have been able to find. I have used excelsior and ground cork-dust, and I consider the latter much the better.

Mr. Coggshall—Sawdust is good enough for me. Of course it is very cheap, but you must have it dry. I have used it for years, and I don't care for anything better. Mice won't work in it, because it will tumble down. It don't give them a chance.

Mr. Dadant—In regard to sawdust, there is a good deal of difference. Sawdust, where they saw logs, is very coarse, pieces of wood, really, but the sawdust of rip-saw is altogether different from the other sawdust. It is in fine, long strings, not exactly excelsior, but something similar. It holds together and will keep out the heat or cold. Sawdust from a fine-cut saw is very good. Has any one ever tried the fine sawdust as compared with the other sawdust for keeping ice? That will tell you as well an anything. If it will keep the ice cold—compare that with the coarse sawdust and you will find how much less quantity will keep your bees warm, or the ice cold.

Dr. Miller—Mr. Coggshall, what kind do you use?

Mr. Coggshall—Hardwood. Set the saw so as not to cut too big a chip, consequently it will be finer than if a larger chip is cut; I endeavor to get the finer sawdust.

Dr. Miller—Do you have any preference for hard or soft wood?

Mr. Coggshall—No, doesn't make any difference. I don't pay any attention to that. We all know that in cutting basswood, pine or hemlock, they set the saw so as to take a chip a little over an eighth of an inch, while in cutting hardwood they can't set the saw so as to take as large a cut, and it makes finer sawdust.

Dr. Miller—How do planer-shavings compare?

Mr. Coggshall—They are too loose.

Mr. Dadant—Too dusty.

Mr. Hintz—How thick a covering do you put on for winter?

Mr. Coggshall—Well, on some I have on three, four, five inches, and with two inches I have wintered them. My packing boxes won't allow more than two inches with a heavy Brussels carpet before the dust is put on. These Brussels carpets—you might think I was extravagant, but I can get them at two cents a pound at any junk-shop, and they are something worth knowing about to bee-keepers. They will last for years. Two cents a pound is nothing, you know.

Mr. Clark—Do you use a Hill's device over the frames?

Mr. Coggshall—No, sir.

Dr. Miller—I think we will be interested if Mr. Coggshall will tell us how he packs his bees for winter.

Mr. Coggshall—There are usually some holes so it gives the bees a chance to go through over the top-bars. Sometimes I pick up a little stick about a quarter of an inch through, and tack that on top, and lay the carpet on that.

Mr. Moore—Mr. Coggshall, how many colonies have you in winter quarters this year?

Mr. Coggshall—1600 or 1700, I think.

Mr. Moore—What is your percent of loss?

Mr. Coggshall—Eight or ten percent, because I don't requeen. Young queens are the key to a good record.

Dr. Miller—I would like a word concerning packing over the frames. I never use cork or sawdust, but of later years I use planer-shavings altogether. If I use these shavings five or six inches deep it is too much. If I use about two inches, 1½ to 2¼ inches, it is just right, in my locality. If the shavings are too deep they become dampened, get wet on the top, and don't dry out. If I leave only 1¼ to 2 inches I have never known them to get damp. They keep dry, and keep the bees dry. I have now 300 colonies wintering in that way. I built a cellar purposely to winter bees, 36x40 feet. I don't use it at all now. I lose from one to three percent of my bees during the winter, and, as Mr. Coggshall says, it is usually from neglect of putting in good queens in the fall. Too much chaff can be put over the bees for winter, and I suppose too much sawdust or too much ground-cork could be put over them.

Mr. Sylvester—Do you use a cushion?

Dr. Miller—Just about three thicknesses of burlap over the combs, and then put the shavings right in. There is one other thing I want to mention—about mice. The man who will let mice get into his hives doesn't look close enough to his work, I think. Some hives, of course, are old, and they have decayed bottoms. Such hives should be set on a good, solid board, and the entrance should be so guarded that mice cannot gnaw it. I tack a piece of tin on the bottom-board and a piece above on the hive so that mice cannot get in—they can't gnaw in. If I don't, they will gnaw in and destroy the bees, and eat the comb down and make bad work every way.

Mr. Whitney—I use planer-shavings for packing my bees. The last two years I haven't lost a colony in wintering. I use a burlap sack with the planer-shavings packed in it about three inches thick. I pack it down solid and then press it down into the upper part of the hives. I have never had any trouble since I commenced using planer-shavings, after packing down solid so they would remain compact. I think, however, if I could get hold of cork-dust I would use it, or that kind of filling.

Mr. Hogge—Do all who have spoken use the chaff hive? It seems to me there is nothing spoken of but top packing. Is there no side-packing?

Mr. Riker—No side-packing in my packing. I have used chaff hives to my detriment. In our locality the weather sets in cold, and cold enough for ice to collect in those chaff hives, and it doesn't melt if the sun should shine for a day or two: but in the thin-wall hives—just the single one-inch lumber or ⅞, the sun can work on them and melt the ice, so we let the sun get right on it, where in chaff hives my experience is it remains there too long.

Mr. Whitney—Not quite pertinent to the question, perhaps, but I am a little sensitive and I have used two or three kinds, and I don't want anything but the chaff hives.

Mr. Josephson—I have not so many colonies of bees, but three years ago many bees died in the country. In my locality there was one bee-keeper who had 56 colonies in winter quarters and took out 4 in the spring. I had 27 in chaff hives, with about six or seven inches of packing (planer-shavings), and I took out 26 colonies in the spring.

Mr. Whitney—That's my experience. Last year I put in about 58 colonies and took out just as many. I use planer-shavings for packing in the top, in the second story.

Mr. Dadant—We have been wintering our bees for years in hives that have double boards on the north side—which is always the back with us—doubled on one side, division-board side, and we pack the top of the hives full of leaves. When my father began keeping bees here, which is about 58 years ago, he noticed that in a deep gully of the woods where there was six inches of leaves, if the leaves kept dry you could almost dig any time in the hardest winter, and that gave him the idea. We keep our bees under trees, and gather the regular leaves whenever dry, which is very often in the month of November, sometimes December. We have of late years wrapped up the hives with the same material by making slat-work with lath—common plasterer's lath—which we wrap around the hive, and afterwards we rake it full of leaves on all sides but the front; that shelters them on all sides but the sunny side. Now as to the chaff hives: I agree with Mr. Riker. We had 80, years ago. We sold some of them. We have 20 or 30 of them now. They don't average wintering as well as the others. Not that they are not good in certain sections, but if we have a very cold snap that will last two or three weeks, and the weather gets mild and remains mild, the chaff-hive bees will come out best; but six or seven weeks of cold, and one warm day, during that warm day they are still cold, and they don't know it is a warm day. The others find out as soon as there is one bright day, and they have a flight,

and those in the chaff hive are shut up, and unless we disturb them they will not come out, because the inside of the hive is cold, and everything is cold, and the result is they will very often suffer and die, when bees in some other hives, which are seemingly exposed, come out all right.

(Continued next week.)

Contributed Articles.

No. 2—Improving the Races of Bees.

BY ADRIAN GETAZ.

IN a previous communication (page 55), I insisted on inbreeding, showing that in other kinds of domestic animals inbreeding could be, and had been, practiced successfully, provided all defectuous animals were rejected, otherwise the defects would go on increasing all the time, as well as the good qualities of the stock.

In breeding for improvement it is supposed that the apiarist has selected the best stock obtainable ; it may be supposed that he has succeeded in improving it more or less. Then it is evident that any outside stock would be inferior, and, if introduced, would cause deterioration. We may set down as a rule, "No introduction of inferior stock under any condition."

Should we begin with two queens of different stocks—one for the drones and one for the queens, or use the same for queen and drones?

I don't know as it would make much difference, provided both are equally good. In starting with two different stocks, more variations could be expected, but less certain of transmitting the qualities already possessed.

I would choose some of our best breeds of five-banded bees. Some of them are as good and as gentle as any ordinary Italians, and have the advantage of capping their honey whiter. I have tried them.

We must control the drones. That is, arrange so that our queens cannot mate with any other drones than those of the colony we have selected. There is no need of controlling the individual drones except to destroy the undersized or otherwise defectuous ones. There is nothing in the appearance of a drone that can guide us or show us what will be the honey-gathering or other qualities of his daughters ; and therefore no choice can be made, except that the only drones flying should be those of the stock selected.

There is only one way to do it, that is, to postpone the rearing of queens (and drones) until the honey-flow is over, and the general destruction of drones has taken place.

There are several advantages in adopting that plan. One is that the young queens have a whole honey season to be tested. Right here, the question might be raised whether a one-year test is enough. I think those decidedly inferior could be removed after the first year test. Those acceptable, especially if they are nearly equal, might have a second year test before the final choice is made. After a decidely superior queen is obtained, I should use her for queens and drones, until a better one is reared. If the best two queens were nearly equal, I think I would use both. Contingencies will probably occur. For instance, the best honey-gathering stock might be decidedly vicious, and a crossing with a gentler stock might be necessary. In estimating the value of a queen, the strength of the colony and all the circumstances having an influence on the amount of surplus obtained should be taken into consideration.

The rearing of queens will be discussed from a technical standpoint in a future contribution.

INFLUENCE OF THE FEED.

Some writers have insisted that the worker-bees can transmit to the young bees some of their qualities, such as honey-gathering, gentleness, etc., either directly through the feed they prepare for them, or indirectly through the feed they give to the queen.

The question is a very important one. If that opinion is true, then, in order to improve our present races of bees, we will have to select not only the queens and drones, but also the workers. Needless to say that the problem would be considerably complicated.

Fortunately, it is and error. To the uneducated that opinion seems very plausible ; to the one possessing even an elementary knowledge of physiology the error will appear at once.

Only those who have tried it know how difficult it is to explain a scientific subject in a way that even the least educated can understand it. Nevertheless, I will try it.

We have here, say, two plats of land. One is poor clay land, the other is rich loam. In the clay we sow some wheat, and in the loam we plant corn. Would you say that the clay was the cause of the wheat being wheat and the loam was the cause of the corn-plant being corn?

Would you say that if the corn had been planted in the clay, it would have acquired some of the wheat characteristics, and if the wheat had been sown in the loam it would have acquired some of the corn peculiarities?

No, you would not. The land or feed has an influence on the development of the plant, but not on its characteristics. The wheat will be wheat in whatever ground it is sown ; but it will be puny and weak on poor land, and tall and thrifty on rich land. So with the corn.

Let us take another example at the other end of the line: Frequently in the Southern States, when a mother cannot nurse her baby, a colored wet-nurse is employed ; but it has never been observed that she could transmit any "nigger characteristics" to the baby through her milk.

Sometimes a wet-nurse is not obtainable. Cow or goat milk is resorted to. Would you say that some of the meekness of character of the cow has been transmitted to the child through her milk, or that some of the contrariness of the goat has been acquired in the same way?

No, you would not. And any man who would advocate such a transmission, would not have to go very far before being asked if he had not been raised on ass's milk himself.

Yet some one may insist and ask if there is not some possibility of the worker-bee adding (something) to the feed that might have some effect similar to that of the egg of the female and the sperm of the male. No, there is none. There is nothing in the honey-sac or the stomach of the worker that can produce a living germ similar to the egg of the female or the male germ. There are only glands producing substances similar to the saliva or the stomach-juices of the higher animals. And if there was, these germs would be useless. Put a piece of wood in the fire and burn it. You say it is destroyed. No, it is not ; it is only transformed—a part of it is now ashes, and another part smoke and gases.

So it is with the food. You eat meat, fruit, milk, etc. All these substances go through several transformations fully as great as when you burned that piece of wood. Some finally become flesh, some bones, some nerves, etc.; some are actually "burned" in the lungs and produce the heat necessary to the life of the body. So it is with bees. And any living germ that might chance to be among the feed would be transformed (or destoyed as such) as effectively as the rest.

Full details and proofs cannot be given here on account of lack of space. They can be found in the text-books on physiology.

An argument often presented is this: The queen never gathers honey, never stings, never feeds the brood. How can she then transmit to her workers qualities that she never possessed? Is it not reasonable to suppose that "somehow or other" these qualities come from the worker?

The argument at first seems to be pretty strong, yet, after all, there is nothing in it. If you look at it closely ; you see that the meaning of it is that the offspring of the queen must necessarily be like her.

But what are the facts? A queen not mated lays eggs as well as one that is mated. According to the above argument such eggs should produce only queens. But, instead of that, they produce only drones, and nothing but drones. This seems to me conclusive, and shows that the progeny of the queen is not necessarily limited to being similar to herself.

EXAMPLES OF THE WORKERS.

Very often we have colonies of bees addicted to robbing, or exceedingly cross. The apiarist changes the queen in hope to correct the evil. To his surprise (if he is a novice) the workers from the new queen are as bad as those of the old one.

Yet nothing else could be expected. Bees follow each other's example almost invariably. Let a bee, in a time of scarcity of nectar, find some honey. She sips a load, hurries home and starts back for more. The other bees of the same colony, noticing her movements, follow her. By and by the other colonies also notice the proceedings and take part in the operations, until the whole apiary is in an up-

roar. The bees from the new queen simply follow the example and action of those of the old queen.

SURVIVAL OF THE FITTEST.

In a measure, the workers do influence the future generations, but it is in a very indirect way. If the workers of a colony are defectuous in honey-gathering or some other essential qualification, that colony will probably die during the following winter, queen and all. That race of bees will disappear.

On the other hand, a race of bees better than the average will prosper, send out swarms, and eventually predominate, while less gifted ones will stay behind or even disappear.

INFLUENCE OF THE MALE.

It is often said—and it is the opinion generally admitted—that the male has a greater influence on the offspring than the female. The question is almost impossible to settle.

When breeding from parents possessing the same qualities, it is impossible to tell from which the offspring inherited its characteristics. For instance, let us choose the case of a calf descendant of a bull and a cow both of pure Jersey stock. That calf probably will possess all the traits of the Jersey stock. Did he inherit it from the cow or the bull, or equally from both? We cannot tell.

Let us try it another way. Let us cross two very different stocks; for instance, a Shorthorn bull with a Jersey cow. Now, if the male has more influence than the female, the calf should be more like a Shorthorn than a Jersey. Yes, it should be, but it is not. In crossing very different stock, the offspring is sometimes like the mother, sometimes like the father, sometimes takes equally from both, and sometimes exhibits particularities (or variations) that neither parent possessed.

We see such a case when crossing black with Italian bees. Some colonies are uniformly two-banded, some nearly black, and some have bees of all shades and colors from the three-banded to the full-black. Nevertheless, all or nearly all the stock-breeders will tell you that the male has the greatest influence.

Before proceeding any further it may be well to mention that in crossing different stocks, the qualities that are the best "fixed" are those which are transmitted, rather than the others.

What do you mean by "fixed"? In breeding Jersey stock the originators have chosen a certain well-known color; they have raised exclusively from cows and bulls possessing that color. Their successors have followed the same rule, and that color has become "fixed", that is, invariably possessed by Jersey animals.

Now to return to our subject: The cows or mares owned by the majority of farmers and breeders are of no particular stock at all—common, scrub, hydrids, and nondescripts of all sorts, sizes and colors, and nothing "fixed".

When needed, the services of some high-grade hybrid or pure-stock bull or stallion are secured; then the calf or colt inherits chiefly the qualities of his father. Why? Chiefly, and possibly altogether, because the father is of a better stock and possessed of stronger and better-"fixed" characteristics. Perhaps to some extent to his sex, but certainly not much, if at all.

For full information on this subject, see the text-books on breeding stock; in preference the German writers. Their works are far in advance of ours. Also Darwin, Wallace, Huxley, etc., on the origin and variations of species.

The conclusion drawn from the study of the higher animals cannot be strictly applied to the bees. In the higher animals, the concourse of both sexes is necessary to the reproduction, whether the offspring is male or female. With bees the case is different. The drone has no father and is exclusively the son of his mother. The female (worker or queen, for both come from the same kind of egg) is born exclusively from impregnated eggs. More than that, the impregnated egg produces females and never males. This seems to show that the female element comes rather from the drone; and, it is very possible—even probable—that the workers and queens inherit their qualities chiefly from the drone. We cannot, however, reach a final decision until careful and extensive experiments are made. On this subject see the text-books, especially Dzierzon and Cheshire.

Knox Co., Tenn.

(Concluded next week.)

The Premiums offered this week are well worth working for. Look at them.

Spreading Brood in the Hive in Spring.

BY G. M. DOOLITTLE.

SEVERAL subscribers to the American Bee Journal wish me to give an article on spreading the brood in the bee-hive in spring, and what is to be the object to be obtained. To this I will say that it is a common trait in our American people—that of desiring to get all that is possible into the "now" of life—they are not being willing to wait till another year for what, with a little extra exertion, can be gotten this year; and so it comes to pass that in almost every pursuit in life we see a reaching forth for the fruits of *to-day*, and the bending of every energy and nerve to accomplish great results during the present season. And bee-keepers are no exception to this rule.

The old and natural way was to allow the queen-bee from four or five years in which to lay her 700,000 to 800,000 eggs Nature had provided her with, but the Yankee push says she must lay all of these eggs in from one to three years, if the thing is possible, and if the science of apiculture is to demand our attention. Hence many plans have been devised to stimulate the bees in spring, so that they in turn would feed and coax the queen to lay the greatest possible number of eggs, said eggs really meaning the laborers in the harvest-field.

Without going over the many plans devised to accomplish the object sought, I will simply say that after trying nearly all, I consider the mode of stimulating known as the "spreading of brood" the best of any, for by it the queen can be coaxed to lay to a greater extent than by any other which I have tried.

Before describing the plan I wish to say that it requires great care and considerable experience to be successful with it, for an injudicious move will often make the colony worse off than it would have been had it been let alone.

As soon as we can reasonably expect warm weather has come to stay, which in this locality is at about the time the cherry and plum trees bloom, we go to a colony of bees and lift out the combs to see the shape the brood is in. If it proves to be a good colony we will find brood in five or six combs, the two central ones being well filled, while the outside ones have little more than half a frame full. Finding a colony in this condition at this time of the year, we do what is called "reversing the brood-nest," that is, we put the two central combs, or those having the most brood, at the outside, and those having the least brood in, in the center between the full ones. Now the six combs of brood occupy the same place in the hive that they did before, except that those having the least are in the center of the brood-nest. This places the most advanced brood near the outside of the cluster of bees and the youngest in the center, and allows the queen to lay her eggs in the warmest part of the nest, instead of the coldest part, as she was doing before. The bees are also averse to an empty comb-space in the center of their nest, so see that it is filled in the shortest time possible, thus coaxing the queen to fill those empty cells with eggs in less than one-half the time she naturally would.

If the weather keeps favorable, in about a week we go to this hive again and take one of the combs from the next outside of the hive, one having considerable honey in it, and after moving the combs along till we come to the center of the brood-nest, we insert this comb, after having broken the sealing to the cells containing honey, by passing a knife over them flatwise. The bees go at once to removing this honey, and in doing so are stimulated to feed the queen to a greater amount, and the heat of the colony is increased so that the queen fills the cells with eggs almost as fast as the bees remove the honey, through this still greater incited activity.

In this way we keep on inserting combs till all in the hive are filled with brood. Should it so happen, before we secure brood in all the combs, that the queen does not keep up her egg-laying in the outside combs as the brood hatches, this can be remedied by again reversing the brood-nest.

As the season advances, so there is no danger from chilling, through a greater number of bees and warmer and more settled weather, two frames can be inserted in the center at a time, every week, if need be.

If all has worked well the hive should be filled with brood in a little over one-half the time it would have taken if let alone, so that double the number of workers will be ready for the harvest, if we have planned our time of commencement wisely, than otherwise would have been.

If the honey harvest comes very early in your locality you will want to commence to spread the brood five or six

weeks before this harvest, in order to meet the harvest with the maximum number of bees. If you have a late harvest, then govern yourself accordingly; but remember that the earlier you commence, the more care is needed.

To show the harm that may arise, let us suppose that you have a moderate sized colony which is carrying all the brood it can keep warm in moderate weather. We go and insert a comb in this nest, and by so doing cause the colony to spread out so as to keep just so much more comb-space warm. Now it turns cold, and after a little the bees are obliged to contract the cluster to keep from being chilled, in doing which they leave the two outside combs of well-developed brood to perish, in order to protect themselves and the center combs containing eggs and the youngest brood. Without explaining further, all will see that much harm, instead of good, would result. Therefore I said at the outset, "care and experience" are necessary. With these great gain can be made by spreading the brood. Without them, the colony is much better off undisturbed.

Onondago Co., N. Y.

Association Notes

By EMERSON T. ABBOTT, St. Joseph, Missouri,
Gen. Mgr. of the National Bee-Keepers' Association.

The New General Manager has not gotten things entirely in hand yet, but desires to say to the bee-keepers of the country that there is a great deal demanding the immediate attention of the Association. The question of spraying fruit-trees in bloom has come up, and a member has appealed to the General Manager for aid. This will receive his attention at once.

A Bill Against Sweet Clover.—As has been announced in the bee-papers, an attempt has been made to pass a law in Ohio with a view of exterminating sweet clover. The General Manager has written a vigorous protest, in the name of the Association, to the chairman of the committee which has the bill in charge. Secretary Mason and Acting Chairman Root have seconded the efforts of the General Manager, and it is hoped the bill will be killed in the committee.

Director Miller has suggested that an attempt be made to get the Department of Agriculture to issue a bulletin on sweet clover. The General Manager will take this up at once with the Secretary of Agriculture, and see what can be done.

The Lie About Manufactured Comb Honey.—The question of manufacturing comb honey still continues to disturb the minds of city reporters, and the General Manager has also found it necessary to write vigorous protests in the name of the Association, to the New York Tribune, and to the Medical Brief, of St. Louis, on this subject. It remains to be seen what will be the responses of these publications.

The General Manager has also addressed a letter to the Chairman of the California State Board of Health on the subject of honey-adulteration.

Bee-Keepers Invited to Co-operate.—It is the earnest request of the General Manager that bee-keepers all over the United States and Canada be on the alert, and inform him at once if anything comes under their notice which tends to the injury of our industry. In the meantime it is hoped that old members will send in their dues promptly, and that bee-keepers everywhere will see the importance of sending in their dollar for membership fee. The new General Manager desires to say that all moneys received by him will be acknowledged at once, and those who send in membership fees and do not hear from them promptly should write and make inquiry about them.

The Change of General Managers.—The retiring General Manager has been absent from home, attending to his duties as a member of the legislature of Iowa, and for this reason there has been some delay in making the change, but if our friends will be a little patient, all will be in working order in a short time, and we will make a long pull, and a strong pull, and a pull all together, for victory.

St. Joseph, Mo. EMERSON T. ABBOTT, *Gen. Mgr.*

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

DIFFERENCE IN LONGEVITY IN BEES.

That was a shrewd experiment of Mr. Olmstead's, on page 149. As it is very suggestive, and very easy, it should be repeated by many observers until we can have a settled knowledge of what it amounts to, and what it teaches. Among your dark-colored bees choose the colony that puts the most white food around the hatching eggs; also choose the one that does the least in that line. Give each a frame of eggs from very yellow stock (both from the same queen if possible), and then observe how long the yellow bees live in the two respective colonies. Mr. Olmstead's observation that the ones extra-well fed in early babyhood live two weeks the longest is almost beyond belief.

Yes, Mr. Olmstead, those bees that forget all about putting any honey below in their zeal for filling sections are very valuable bees; and there is serious danger that Nature will weed them out by starvation unless man interposes.

WAX-WORMS IN PINE AND BASSWOOD.

As to the preference of wax-worms, my memory is that they eat the pine and the basswood about equally when they burrow between a section and the adjacent wall. But my memory sometimes plays me tricks. Some pine is very soft while some is quite hard—and basswood is usually pretty tough. Page 147.

THAT SEVEN-YEAR-OLD QUEEN.

Hello! Mr. Riker gets himself into good and ancient company. Virgil gives seven years as the extreme age of the bee—and Mr. Riker claims a seven-year-old queen. Probably the ancients, most of them, didn't know that workers lived to a less age than the queens. And Mr. Riker will encounter lots of Thomases who will tell him that anything beyond five years must be a mistake. Page 150.

HONEY CROP VS. YELLOW BANDS.

Queen tested for honey crop worth three times as much as the one tested for yellow bands. Right—and might have said more and still be right—Miss Emma Wilson. Even when you studied the harness of the horse you intended to drive you were not any "right-er." But the provoking mischief of it is that it *costs* much more than three times as much. And when the testing is fairly complete the queen is not as young as once she was. Page 151.

OILED MUSLIN HIVE-COVERS—YELLOW SWEET CLOVER.

Is the hive-garment projected by R. McCradie, page 154, a practical thing? (Oiled muslin to cover all the hive except the entrance.) The object sought is valuable. A dry wall is warm when the sun shines even a little; but a soaked wall uses up more of the heat evaporating its surplus water. If the device can be kept from *clinging*—as wet garments are inclined to do, and thus imparting lots of moisture to the wood—I think it would be worth while in any cold climate prone to frequent rains and drizzle driven by winds. Possibly one might profitably and as well go further and fare better with regular outside packing and a big piece of corrugated iron for top.

And so there is one yellow sweet clover that blooms three or four weeks earlier than the white. Page 172.

DON'T BE A PROPOLIS-RUBBER.

If dirt or propolis are *rubbed on* to sections to make the Thomas family believe in them, and the ingenious rubber gets found out, the family aforesaid will have "confirmatiou strong, etc.,"; and the honey-man will find his mouth awkwardly stopped. Guess it would be safer, as well as more strictly moral, to let alone. Page 154.

SHADE FOR BEES.

My opinion of the shade proposed by Albert Wiltz, is that it is a wonder that some one has not proposed it before. Artichokes are a vegetable I am unfamiliar with. There'll be some hot days before they are big enough to suffice, will there not? With artichokes, sunflowers, asparagus and grapes on trial,

which would furnish a sufficient shade first? On rich ground, and for small hives set low, I suspect rhubarb could be made to beat either one—but that would die down and leave us just when we wanted it most. On the whole, artichokes look very promising for an aplary that is to be moved every year. As to a settled location, I might go hunting for a weak point and say that perhaps spreading around in the ground might bother some in years after the first. Page 154.

THE JOUNCER THAT RAMBLER DOTH JOUNCE.

I like patient persistence, and Rambler seems to have it when his jouncer is involved. I guess we will have to confess that some people find it useful, and succeed in using it without doing serious mischief. The pointing of the corner-posts is a good idea. They penerate the soil a little and favorably reduce the all-fracturing emphasis of the jouncer. Honest in him to confess that thin honey gets badly jounced out sometimes. Page 158.

SETTING THE PRICE OF HONEY.

I fear, Comrade Akin, that the price of honey is sometimes set not by "the best and up-to-date methods," as you put it, but by the cheapest—and also decidedly reprehensible methods—which ought not to be allowed at all. Some time we'll set the pure-food commissioners after the offenders—so we will. Page 158.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

(The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.)

Swarming with No Increase.

I am desirous of having my colonies swarm without increasing their number, and want to know a good way to unite the swarm and old colony. Last year I placed the old colony over the swarm, a few days after the swarming, but the plan was not satisfactory. My honey-flow is light and continuous during the summer, the only surplus coming after the middle of August. NEW JERSEY.

ANSWER.—I'm not sure I can tell you any way that will be entirely satisfactory. Here is one way you might try, which would have the advantage of leaving you a young and vigorous queen: When the colony swarms, kill or remove the old queen—an easy thing to do if your queens are clipped. A week later destroy all queen-cells but one. Or, wait till you hear the young queen piping, then destroy *all* queen-cells remaining.

Flavoring Bogus Honey—Bee-Bread Flavor—Drones.

1. What is the name of the stuff the manufacturers of bogus honey use to flavor the product? I think I knew the name when I was a child, and saw my father put a few drops of it on a tray of rye-flour which he placed in the open air in early spring, to encourage the bees to begin brood-rearing, I suppose.

2. Is there anything used to put in extracted honey to imitate the flavor of bee-bread? I bought a small jar of honey in a Chicago store last September, and there was no particles in it to indicate bee-bread, but there was such a decided flavor of bee-bread that the honey was quite spoiled for me. And I wondered if it could be imitated, and was as a supposed guarantee of genuineness, for I never knew that the flavor would so permeate the honey that it would remain when not a particle was visible in the jar. I thought to take it to Mr. York and ask him about it but I never got to go. The flavors of different kinds of honey interest me very much, and when I taste a new kind of honey I wonder from what it was gathered. The most finely and deliciously flavored honey I ever tasted was a box of comb honey I bought in Chicago, last fall, and I imagined it came from apple or peach blossoms.

3. My other question was about drones. I may be displaying unpardonable ignorance, but I want to know your idea. I have understood that drones are always hatched from unfertilized eggs. Lately I was reading a manuscript in which the writer—an old, experienced bee-keeper whom I had known, personally, from childhood—said that he had watched the queen laying eggs in drone-cells, worker-cells and queen-cells, on the same comb, while he held the comb in his hands, and those eggs hatched out drones, workers and queens, according to the cells. ILLINOIS.

ANSWERS.—1. I do not know that anything but honey is used as a flavor. I have had no personal experience in that line, but I have sampled honey that was adulterated, and the only flavor I could detect was that of honey and glucose. Still, it may be that other flavors are used. I suspect that the flavor you have in mind that your father used is anise, for that is used sometimes. I believe, to bait bees.

2. I never heard of anything being used to imitate the flavor of bee-bread. There are so many different flavors in pure honey that it is possible there may have been nothing wrong except that the bees got the honey from flowers that yielded the disagreeable flavor. It may also be that the honey was adulterated. I doubt that the honey you liked so well was from apple or peach bloom. At the time of fruit-bloom bees are not generally in sufficient force to store surplus, and all the honey then gathered is used in brood-rearing.

3. There is no conflict between your understanding and the statement of your friend. All the eggs of the queen are unimpregnated as they leave the ovaries. In its outward passage the egg is impregnated as it passes the seminal sac or spermatheca *if* the egg is destined for a worker-cell or a queen-cell. But if the egg is destined for a drone-cell it is not impregnated. In the absence of a queen, workers sometimes undertake the business of egg-laying, but their eggs, being unimpregnated, produce only drones, even if laid in worker-cells.

Now it would be just like you to ask whether the queen voluntarily decides what eggs shall or shall not be impregnated, or whether there be something in the nature of the case by which she is mechanically compelled to lay the right sort of egg in the cell. To that question I refuse to give any answer. I must draw the line somewhere. But if in place of that question you will ask one to which I know the answer, I will cheerfully make reply.

Management for the Most Honey.

By which of the following plans do you think the most honey can be obtained in a case where bees in an 8-frame hive swarm about May 30, and the surplus honey commences to come in about June 15, and lasts until about July 15, and then a fall flow from buckwheat commencing about Aug. 1?

1. By allowing them to swarm May 30 and getting a little of the white surplus from both parent colony and the swarm, and building them both up for the fall flow?

2. Or, by not allowing them to swarm, by giving them more room, until June 15, and then practice the Heddon method to get most of the bees with the swarm? With this plan the parent colony does not get strong enough to do much surplus work on the fall flow. NEW YORK.

ANSWER.—The answer to your question depends upon the *proportion* the buckwheat harvest bears to your early harvest, and also upon the number of colonies you have. If you have enough colonies to stock the field, then your better plan is to keep down increase as much as possible. If there is no danger of overstocking, your first will be better if the buckwheat crop is large compared with the earlier crop. The second plan will be better if you expect only half as much from buckwheat as from the early flow. This is only a guess and I will be glad if those who have had experience will set me right if I am wrong.

Getting Increase and Honey.

1. What method would you advise in making nuclei? I want to increase, and I also want honey.

2. Or, would you divide and give an untested queen?

3. Would you divide the strongest colonies or the weakest ones? IOWA.

ANSWERS.—1. The question is just a little like asking how to build a house. Much depends upon circumstances as to the kind of house, etc. So it is with nuclei. It is an easy thing to tell how to start a nucleus, but just the best way depends on circumstances. You say you want to increase and also have honey, which is more of a help than many questioners give. In the first place, you should inform yourself thoroughly by the study of your text-book as to general principles, and then you are less likely to make mistakes. Making the

guess that you do not care for nuclei except to build up into full colonies, you can wait till a colony swarms, then about a week after hiving the swarm divide the old colony into as many nuclei as you can by taking two frames of brood and bees for each, making sure that each nucleus has a good queen-cell in the center of the bees so it will not be chilled. It will be well for you to fasten the bees of each nucleus in its hive for 24 hours by plugging the entrance with green leaves. If you have one or more choice colonies, build them up in advance of others, so that they will first swarm. Draw brood from other colonies to build them up.

2. You can make faster work by buying untested queens, but of course it will cost more. If your untested queens make an improvement in stock, they may be the cheapest in the long run.

3. It will perhaps be best to leave the strong colonies for honey. So many things have a bearing, however, that it is hard to say just what will be best without knowing all about what you will do.

Spring Dwindling in California.

Did you ever hear of bees having spring dwindling in this part of the country? From what I can learn from the "A B C of Bee-Culture," that is what our bees have. The hives are full of honey and the bees all gone, or nearly. We have had plenty of rain so far this season for this section, but we are overstocked with bees at present. If you know of any remedy, please let me know. CALIFORNIA.

ANSWER.—There seems to be no remedy except the coming of good weather to allow daily flight.

QUEENS!

Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North.

The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

We have files of testimonials similar to the above.

Our Breeders originated from the highest-priced, Long-Tongued Red Clover Queens in the United States.

Fine Queens, promptness, and square dealing, have built up our present business, which was established in 1888.

Prices of GOLDEN and LEATHER-COLORED QUEENS, before July 1st:

	1	6	12
Selected, Warranted	$1.00	$5.00	$ 9.50
Tested	1.50	8.00	15.00
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We guarantee safe arrival, to any State, continental island, or any European country. Can fill all orders promptly, as we expect to keep 300 to 500 Queens on hand ahead of orders. Special price on 50 or 100. Free Circular. Address all orders to

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PARKERTOWN, OHIO.

[Parkertown is a P. O. Money Order office.]

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BETTER THAN SPRAYING.

Don't lug barrels of water around when spraying. Use the poison direct. Our

Common Sense Dust Sprayer

and Insect Exterminator is a most ingenious device that is rapidly supplanting the old methods. It blows the finely powdered dust into every nook and crevice. Reaches the bottoms as well as the tops of leaves. Destroys insect life on plants, vines, shrubs and trees. Just as effective for vermin on poultry and pigs. More rapid than spraying. Descriptive circulars and testimonials free.

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6 00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
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White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.

144 & 146 Erie Street, - CHICAGO, ILL.

GENERAL ITEMS

A Beginner's Report.

I bought one colony a year ago this winter, and when the time came to put on the super, I put on one with 28 sections, and in June they swarmed and I put on a super and had to take them off and put on more supers. In the fall I took off the honey and sold it for $19.18, and that gave me the bee-fever, so my wife says, and I bought 22 colonies more, and caught 2 swarms, so that made 26 colonies. The 22 colonies that I bought cost me $25.15 besides my work, but 7 of them I killed, as I thought they were too light in stores for winter. The 19 I have left are in good shape, I think; I put 7 into the cellar and 12 out-of-doors, with protection on the north and west. The ones in the cellar are in the best shape, hardly any dead; the ones that are out have from half to one pint of dead bees per colony.

My bees are almost all in Langstroth-Simplicity hives, but they are not on straight combs so I can handle them with pleasure. I have bought 10 Danz. hives, and expect to start right if I can learn the trick. I have chosen the Danz. hives to start with for comb honey, and if I have made a mistake I wish some of the veterans would straighten me out on that line. But there is one thing I do not understand about the hive, and that is, Mr. Danz. says if the bees do not build to the bottom-bars to reverse them. I should think if that were done the honey would run out, and the rest of the cells would be upside down. E. B. PRICHETT.

Warren Co., Iowa, March 19.

Counteracting Honey-Lies.

After reading several items about "Lies About Honey," I began thinking, Is there no remedy? Yes, I think that there is one remedy, and the sooner it is applied the better for all producers of pure honey. It is organization. For the coming season ask the officers of the National Association to act as officers. Make it independent of the present organization for now, at least; if they wish to unite later, all well.

Each member pay his dues according to the number of colonies of bees, spring count. As soon as the season ends, each member should send a report of his crop. This would give each a good estimate of the crop all over the United States, and from each section, and be governed by the same in selling.

The officers should appoint a committee of investigation to look after the welfare of its members.

Each member should put his honey on the market under the seal of the organization, with his own name and address attached. This could be easily done with small stickers on each package.

If any adulterated honey be found on the market under the seal of the organization, the committee will look after the matter. If a member put it on the market, black-list him and expel him from the organization. If not

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. 200 tested reared last season ready to-day Contracts with dealers a specialty. Discount after July 1st. Send for circular.

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14A26t SPRING HILL, TENN.

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Wanted Comb and Extracted Honey!

State price, kind and quantity.

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MAKE A GOOD WAGON.

Unless a wagon has good wheels it is useless. THE ELECTRIC STEEL WHEELS are good wheels and they make a wagon last indefinitely. They are made high or low, any width of tire, to fit any axle. They can't get loose, rot or break down. They last always. Catalog free.

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ITALIAN QUEENS and the WARFIELD STRAWBERRY ...

D. J. BLOCHER, Pearl City, Ill.

Ask for our price-list and testimonials.

As we are spending the winter in North Dakota, all our correspondence, whether social or business (until further notice) should be addressed,

D. J. BLOCHER, Denbeigh, N. Dak.

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DAIRYMEN ARE DELIGHTED

to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.

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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

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a member, deal with the forgery according to law.

Let the business of this organization be known to all dealers and consumers as far as possible, and that they will not let any but pure honey pass under their name without punishment if the guilty can be caught. If need be, a reward could be offered for any adulteration passing under their name, if evidence could be had to convict the guilty.

I think that this would guarantee a pure article to dealer and consumer, and would increase both demand and price, and bring money to the pockets of the producers.

Washington Co., Pa. WM. R. MARTIN.

A Skunk in a Bee-Cellar.

I will tell how I got a skunk out of my bee-cellar, and I wish to know whether I did right. My cellar is under the dining-room, is 8x10 feet, with one window and a door on the outside on the south. I have 63 colonies—40 colonies on one side (8 hives long and 5 high), and the other 23 colonies across one end.

Well, Sunday morning I went down to sweep the dead bees from the cellar-bottom; it has a cement floor, and I noticed the bees were all stirred up. I thought mice had gotten in. I commenced to sweep the bees up. There was a barrel in one corner; I took hold of it and moved it, and there was Mr. Skunk. I started for the door, but he caught me. My, what a smell! My wife smelled it as soon as I did. I said, "Martha, there is a skunk in the cellar;" and she said, "Yes, and you got it!"

The next thing was to get him out. I could open the door and let him go out, but he would come in again. I could poison him, but he would likely go behind the hives, and I could not get him out without overhauling them. He had made the cellar smell, and I did not want to let him go. I set a steel-trap at the foot of the stairs, and put on some honey for bait, but he was too smart. About 4 o'clock I opened the cellar-door and he came out from behind the hives, but before I could shoot him he went behind the hives again. At 6 o'clock I tried it again, and got him. Do bees hear? I do not know. It did not seem to disturb them. I open the door at night to cool the cellar, and that is how he got in. Now I put on a screen-door also. Did I do right? L. C. GREEN.

St. Francis Co., Ark., March 15.

[Yes, sir, you did just right. The proof of the pudding was in the eating—or the smelling. You got Mr. Skunk, and deserve to be congratulated upon your success. Perhaps the noise of the gun was so much less a disturbance to them than the "loud" perfume of Mr. Skunk, that the bees didn't notice the sound of the shot. Not every bee-keeper can go a-hunting in his cellar.—EDITOR:]

A Home Partnership Bee-Keeping.

My wife and I have kept a few colonies of bees for the last six years with different results—some years we would get little honey, other years a little more, and sometimes we had to feed; but last year being a very hot, dry season here, we were surprised by the quality and quantity of the honey gathered by the bees.

We keep only 5 colonies, and are trying to keep the number down to that, so we go through the hives once a week during the spring-time and cut out queen-cells, besides giving the queen plenty of room to deposit her eggs, by putting a second brood-chamber on top, and by transferring full brood-combs from the lower to the upper chamber, and filling in again with empty combs; we keep this up until the main honey-flow (sweet clover) starts in, then condense again by shaking all bees from upper chamber in front of hive, and put on two supers. Of course we get a good many brood-combs in the upper chamber filled with honey, but it makes fine winter stores. By thus handling them in the spring we get large colonies ready for the main honey-flow, and have very little swarming.

Last year the different flower-blooms and

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30 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 30 cents a pound—CASH—for best yellow, upon its receipt, or 32 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

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We put our honor against yours. If you want a new buggy or carriage this season, and would like not only to see it set up, but to use it and satisfy yourself that it is a bargain, we will ship you one on

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We believe our Split Hickory Vehicles are the best on the market at any price, and we believe you will give them a fair trial. If after thirty days you are not satisfied, return them to us. There will be nothing to pay. All this is fully explained in our new illustrated catalogue, which is free. Besides vehicles it shows a full line of harness.

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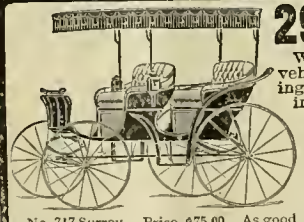

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but ship anywhere for examination guaranteeing safe delivery. You are out nothing if not satisfied. We make 195 styles of vehicles and 65 styles of harness. Our prices represent the cost of material and making, plus one profit. Our large free catalogue shows complete line. Send for it.

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Yes, Sir! The MUTH'S SPECIAL dovetail hive is a "Cracker Jack." COVER and BOTTOM-BOARD are absolutely warp-proof. We know because we are practical. Our illustrated catalog explains it all. You can have one by asking. Not a hive left over from last season. We sell the finest SUPPLIES at manufacturers' prices.

STANDARD BRED QUEENS, none better than our BUCKEYE STRAIN of 3-BANDERS and MUTH'S STRAIN GOLDEN ITALIANS. 75 cents each; 6 for $4.00. Safe arrival guaranteed.

THE FRED W. MUTH CO., Front an Walnut Sts., CINCINNATI, OHIO.

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An old and true friend that will help you in times of distress. When racked with pain you would give anything for relief. In the hour when the little child, too young to make its wants known, lies suffering, its little face drawn with agony; in the hour when the good wife, worn and tired, needs an arm to lean on; at all such times, when the calling of a doctor means a dangerous delay, besides great suffering and a heavy bill, there is nothing else so good as a bottle of

WATKINS'
Vegetable Anodyne Liniment.

We receive numberless letters like these:

SAVED THE CHILDREN.

CLARA CITY, Minn., June 14, 1901.
We had five children sick with **diphtheria** last winter and carried them all through in one week without any doctor. **Watkins' Vegetable Anodyne Liniment** should be used at once as soon as any symptoms appear. We mixed two teaspoonfuls of Watkins' Liniment with two of vinegar and one of salt. Gave some of the mixture once an hour, also rubbed the Liniment on outside of neck.
OTTO PETER.

HORSES WOULD HAVE DIED.

SHIPSHEWANA, Ind., June 18, 1901.
I have used **Watkins' Vegetable Anodyne Liniment** for nine years and find it the best remedy for **colic in horses** I ever knew. I saved two horses with it that would have died. Cannot speak highly enough of it. HENRY CATTON.

The best thing made for Cholera Morbus, diarrhea, flux, rheumatism, cuts, cramps, strains, burns, colic, mumps, sore throat, diphtheria, frosted limbs, etc. For horses and cattle it cures sprains, cuts, scratches, bruises, sweeny, colic, etc. Of course when you read this advertisement you may not feel the need, but the need of it may arise at any moment of the day or night, and then its worth can not be counted in dollars and cents. Order it the next time our agent calls, or if we have no agent in your county, send us your name and address at once, and we will see that you are supplied.

FREE! FREE! FREE!

We send out a beautiful 100 page illustrated Home Doctor and Cook Book absolutely free, and want to place your name on our mailing list. It is the cleverest and most complete thing of its kind ever issued. Write for one to-day.

J. R. Watkins

Wanted a Man. We want one good, open-eyed young man in each neighborhood who has a little ambition, and an inclination to get on in the world, to write to us. We are in a position to start him in a good paying business of his own. We have lots of young fellows, "boys" you might call them, who are making a nice thing selling Watkins' Remedies.

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Have You Seen Our Blue Cat-

alog? 60 illustrated pages; describes **EVERYTHING NEEDED IN THE APIARY.** **BEST** goods at the **LOWEST** prices. Alternating hives and Ferguson supers. Sent FREE; write for it. Tanks from galv. steel, red cedar, cypress or fir; freight paid; price-list free.

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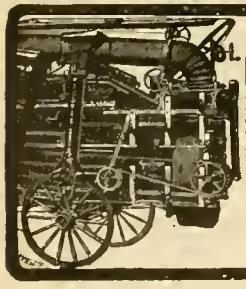

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Like all the "Rumely Goods" this is simply perfection. When coupled to our New Rumely Rear Geared Traction Engine they constitute a threshing outfit that not only makes big money for the thresher, but saves grain and money for the farmer. They are durable beyond comparison and when you buy them you are done buying for years to come. Take a little time to think about how it would pay you to own such an outfit, then write us for free catalog.

M. RUMELY CO., La Porte, Ind.

$300,000,000.00 A YEAR and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. **Draper Publishing Co., Chicago, Ill.**

200 EGG BANTAM $15. 2 SELF-REGULATING INCUBATORS IN ONE. Hatch every good egg. 50 egg size $5.00 Send 2c for 30 Days Trial. 100 egg size $9.50 No. 63 Catlg. BUCKEYE INCUBATOR CO., SPRINGFIELD, OHIO.

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honey-flows succeeded each other almost every 10 days, commencing in March with maple and following with elm, willow, cherry, plum, apple, dandelion, black and honey locust, catalpa, white clover, mother-wort and sweet clover, the bees working all the time.

With all precaution we had 2 colonies swarm, but we put each of them back in their old hive; they stayed and were contented. These 2 colonies must have had poor queens, as they gave us the least honey, so we killed the queens the middle of August and introduced 2 new ones a few days later. We hope they will do well this season.

On May 28 we put two supers on each hive to give them plenty of room, and the bees went right to work in them. By the end of June sweet clover commenced to bloom, hot winds commenced to blow, and we thought that would end the flow, but just the reverse, for on July 22 we took off 184 filled sections; Aug. 21, 186 sections; Sept. 16, 183 sections; and by the end of the season we had taken from hive No. 1 (an 8-frame) 138 sections; Hive No. 2 (an 8-frame), 124 sections; Hive No. 3 (an 8-frame), 70 sections; Hive No. 4 (10-frame Danz.), 192 sections; and Hive No. 5 (10-frame Danz.), 77 sections, making a total of 601 sections. It was as fine white capped honey as was ever produced by bees, and all in 4 by 5 inch sections, divided by fences. Besides, we had about 30 unfinished sections, which we fed back to the bees for winter stores.

As we sell 6 pounds for $1.00, it was quite an income from 5 colonies. We all like honey, so we have sold a little over half and kept the rest for ourselves and the children.

Hall Co., Nebr., March 12. GUS KOLLS.

Hiving Bees—Swarm-Catcher.

On page 206 is an item by Sarah Griffith on "Hiving Bees." For ten years I have not cut off a limb on which a swarm clustered. I never think of carrying the hive to where the bees have clustered—I always take the bees to the hive. I never try to put my bees on top of the hive; I have a better way. I have my hives all ready on the stand, and when a swarm comes out I lift the hive off and set it on the ground by the stand. I have a nice platform about 3 feet square that I lay down in front of the hive, that is just even with the entrance, so the bees can crawl right in when they are shaken out of the catcher. I always have a pail of water with a little salt dropped in and a dust-brush which I dip in the water and sprinkle the bees slightly in the catcher, then shake some of the bees out on the platform, but not too close to the entrance; sprinkle them a little, and with a stick tap on the side of the hive, and it would surprise you to see them rush for the entrance. When they get well started I can shake the others out of the catcher (not too close), or I can lay the catcher down and the bees will all leave and go to the hive, and the job is done.

I will now give a description of my swarm-catcher, which, I think, is a good one for many reasons.

It is 12x16 inches. Take thin boards, four of them. Take the short end of an iron square, which is 1½ inches wide, with this make lines 1½ inches apart each way on all four of the boards. Then with a ½-inch bit bore a hole just where each of the lines cross, except the center of two of the boards, there bore a ¾ inch hole, and make one hole square, leaving the other round. Then take another board ⅞ or ¾ inch thick, big enough for a bottom (no holes in this). Now you are ready to nail the box; be sure to get the ¾ holes opposite each other; these are for the pole or handle, which is made square to fit the square hole and go through the box, the end made round to fit the round hole on the opposite side from the square. There must be a shoulder on the pole where made square. When the pole is nicely fitted mark it at the round end close to the box, then pull it out. Bore a gimlet hole through the pole for a pin to hold the box in place, and the catcher is complete. I have four of these, with handles of different lengths. I also have a number of light poles of different lengths, with hooks on the end to shake the bees from the limbs.

I have set this box up where the swarm had

just begun to cluster, and every one of the bees would go into it. I have held it up where the bees were thick and ready to cluster (on a limb), and taken in the box. When I go to take down a cluster I shake them gently until the most of them are off the limb on and in the box, then I hold the box out and clear from the place of clustering, and with a pole and hook shake the limb to keep the bees from settling. In a few minutes the bees are all in the box, then I can carry them anywhere or set them down, if another swarm comes out before this one is hived. I have had all my catchers full more than once. I have found bees and carried them ¼ of a mile on my shoulder, all snug in this catcher. It is the best catcher I have ever tried, the bees take to it kindly, and are easily carried to where you want them. A slight jar on the handle, or pole, and the bees are on the platform ready for the hive.

Piatt Co., Ill. J. W. C. GRAY.

Foul Brood—Bacteria and Their Relation to Diseases.

We speak of bacteria as causing diseases, then, again, as preventing diseases, and sometimes as curing diseases. These opposite and apparently irreconcilable properties in objects that can only be seen in a microscope, have caused the bacteria to be looked upon as mythical bodies by many intelligent persons who have not made them a special study. In explanation of the ways in which bacteria act, I propose adopting a method frequently used by lawyers in court, *i. e.*, of stating a case, and I present the case of the boy learning to smoke. If a boy takes five or six whiffs of smoke from a tobacco-pipe, he will in three or four minutes turn pale and have to lie down. He will be a very sick boy for half an hour, when he will begin to recover, and in an hour he will be nearly well again. The nicotine poison in the tobacco acts quickly, and only for a short time. If the boy had taken one whiff the first day, two the second, and three the third, he could have gone on for a month, and, without being sick, have made himself an educated smoker—likely enough proud of his accomplishment. Men and women have educated themselves to take with impunity a dose of opium or morphine sufficient to kill a dozen persons, and men have been known to take, without any immediate ill effects, a quantity of arsenic sufficient to kill a score of men. They commenced by taking small quantities.

We will now suppose that there are bacteria which secrete nicotine poison as their weapon in the battle of life. The poisons secreted by the bacteria are very similar to the poisons formed in the leaves and flowers of plants, and the bark of trees, to protect them from their enemies, so that the nicotine bacteria are not impossible bacteria—they may exist. If the smoking boy, and another boy not educated to smoke, should be infected with these bacteria at the same time, no effects would be noticeable for several days, the period of incubation—say ten days—when the bacteria would begin producing nicotine. The smoking boy would not be affected by it, while the other boy would be killed very quickly—probably in an hour. Now, if we had taken this boy before he died, taken him on the day he was infected, or the day after, and had given him a whiff of tobacco-smoke, the next day two, and so on, until the bacteria commenced secreting nicotine, he might have been sick from the larger dose, but he would have recovered to find himself as accomplished a smoker as the other boy, the bacteria having completed his education.

We would have saved the boy precisely in the same way as a person bitten by a rabid dog is saved in the Pasteur Institution, and the smoking boy's protection from the nicotine bacteria shows how immunity from smallpox, by vaccination, may be produced at will.

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Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get grand bee-book for a very little money or work.

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BY ISABELLE HORTON.

This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address,

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200 Nuclei and Full Colonies For Sale.

We have arranged with a good bee-keeper located in Kankakee Co., Ill., (within 12 miles of Kankakee), to fill orders for Nuclei and Full Colonies of Bees. All are to be first-class, and most of the bees show Italian markings. The queens in the Nuclei will be Italian, of this year's rearing. Full colonies can be shipped now; the Nuclei beginning May 1. We can book your orders for Nuclei now—first come first served.

The Nuclei are 3-frame Langstroth, in light shipping-boxes. Prices: 1 for $3.00; 5 at $2.75 each.

Full colonies in 8-frame Langstroth hives (no super.) Prices: 1 for $6.00; 5 or more at $5.50 each.

All are f.o.b. shipping-point, and will be sent by express, a postal card notice being mailed to each purchaser a day or two before shipping the bees.

Send all orders to GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

It should be observed that it makes no difference whether we use the poisons of the bacteria or the bacteria themselves, weakened by growing in a cow or by overheating, or by merely drying—as Pasteur did the rabid dogs' virus to protect against the disease—the result is the same. It is the poisons of the bacteria that cause and protect against the disease.

Our control over diseases, however, is very much limited by the great, and, I might say, insurmountable difficulties that have to be overcome in isolating the bacteria, and cultivating them so as to obtain their poison. The poisons can, as we have seen, protect against the acute infectious diseases caused by the bacteria, but when the disease has set in, the poison can not be used as a remedial agent in the disease. Anti-toxins are then used in a few diseases with some advantage.

Bacteria, although vegetable organisms, live like bees in colonies, and the individuals act in the interest of the colony. It is numbers that make them formidable. If a bee stings it dies, and if a bacterium secretes poison it dies in secreting it. Both lose their lives in defense of the colony. A bacterium can multiply, and a bee sometimes tries to multiply, but fails. The bacteria grow and multiply for some time before they commence secreting poison, and this explains the nearly uniform periods of incubation connected with most infectious diseases. The incubation period of hydrophobia varies to a great extent.

The nicotine bacteria did not grow in the smoking boy. Bacteria will not grow unless the surroundings are favorable. Parasitic fungi will not grow in strong and healthy plants, but will readily in weak plants, and the tubercle bacilli will not grow in strong animals, but will readily in the weak. When the bacteria are unable to poison and paralyze the animal cells, the white blood-corpuscles and tissue-cells (Metschnikoff's Phagocytes) eat them, and when the tissue-cells become resistant to the bacteria-poison they quickly dispose of the bacteria. We find, therefore, that the attendants of the sick in small-pox, consumption, and fever hospitals, are more secure from the diseases than if less exposed to them. The exposure strengthens the resistance and preserves the immunity of the disease.

The animal cells know on the first touch of the bacteria whether they are dangerous or not, as one bee knows on the touch of another whether it is from a queenless colony or not. The dangerous bacteria are of small size, and may be known to some extent in that way. If we inoculate a person with small-pox virus, and at the same time vaccinate with vaccine virus, the vaccine virus will commence growing four or five days sooner than the small-pox virus, and will protect wholly or partially from the small-pox virus. This is the same kind of protection by which we proposed to save the boy, and the same that Pasteur used in hydrophobia. It is simply inducing a mild form of the disease during the incubation period to protect against the fatal form at the end of it. The animal cells offer less resistance to the growth of the bacteria producing the milder poison.

I have stated as briefly as possible the action of bacteria in causing and protecting against diseases, to show that we can not make use of the bacteria or their poison in curing or preventing foul brood. That all parasitic bacteria, however, are continually increasing the resistance of animals to bacterial diseases, is evident—the acquired resistance is transmitted and becomes hereditary. Also, to show that germicide remedies in the treatment of foul brood endeavor to

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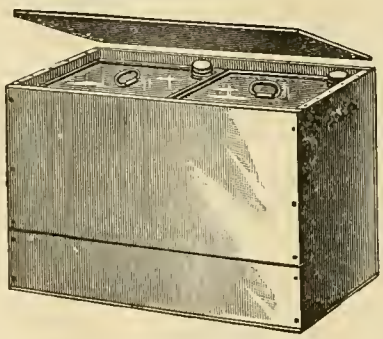
ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

BINGHAM'S PATENT Smokers

24 years the best. Send for Circular.

25Atf T. F. BINGHAM, Farwell, Mich.

SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.

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Maple Hill Poultry Farm

Is now selling **EGGS** for hatching from Standard Bred, High-Scoring stock. Barred Plymouth Rocks, Black Langshans, and Rose-Comb Brown Leghorns. Eggs, $1.50 per 15; $2.50 per 30. Stock in season.

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At once to assist in management of 200 colonies. Wages, $20 a month and board. A steady job to a good man. ANSELL,

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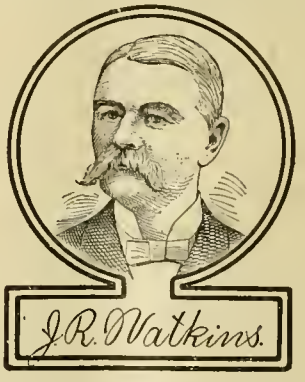
Watkins Remedies—Our columns contain the advertisement of the J. R. Watkins Medical Company, a long established and favorably-known medical house of Winona, Minn. This institution takes its name from its President, J. R. Watkins, who established the business in a small way about 35 years ago. It was incorporated in 1894. It has therefore had a long and prosperous career under the same management, who was the discoverer and compounder of all its remedies. The Watkins group of remedies have become household words in many parts of the country. In some sections the Watkins wagons have been traversing the country year after year, calling upon regular patrons who would not think of being without the Watkins remedies and extracts. People have no hesitancy in patronizing the Watkins wagons. The drivers are specially commissioned bonded rep-



resentatives of the Watkins house. Elsewhere the mail order, selling direct from the laboratories to the consumer, has been employed. By these means an immense business has been built up, and this "old reliable" boasts the largest and best equipped house of its kind in the world.

The 1902 Watkins Almanac, Home Doctor and Cook-Book combined into one, is a most valuable book for preservation in any home. It is replete in discussions of ailments, remedies, recipes, etc. It is much larger for this year than ever before, and embraces many new and valuable features. Nothing untried or ill considered finds a place in it. Many of our readers are long-time patrons of the house. Such as are not should at least write for the above book, which is sent free, and correspond freely for anything desired in its line. Correspondence should be addressed to The J. R. Watkins Medical Co., 10 Liberty St., Winona, Minn. Please mention the American Bee Journal when writing.

make the surrounding conditions as unfavorable to the growth of bacteria as possible; and if this principle is kept in view the details in carrying it out will be easily understood as we proceed with the subject.

The condition must be exceedingly favorable to the growth of bacteria to enable them to destroy a colony of bees. The bees can protect their colony against bacteria to a greater extent than is generally supposed. No one has found foul brood in bees located in chimneys or garrets, or, in fact, in any home not purposely made for them. If we continue to favor the growth of bacteria in the hive so as to give the bacteria an advantage over the bees in the "struggle of life," and persist in cultivating the bacteria, and not the bees, we will, most assuredly, never succeed with disinfectants and germicides in getting rid of the disease caused by the favored bacteria.—A. W. SMYTH, in the Irish Bee Journal.

The foregoing interesting article will, no doubt, help to clear up matters for many readers. The implied statement, however, that foul brood is never found except in man-made hives, will hardly be accepted by many who think that one great difficulty in the way of getting rid of foul brood lies in the fact that it is impossible to control it in wild colonies in trees.

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

JUST A WORD.

Any of our full line of Carriages and Buggies sent anywhere on **30 Days' Free Trial.**

How can we do this? Because we manufacture in our own factory all vehicles we sell. Get one of our free money saving catalogues.

Kalamazoo Carriage & Harness Mfg. Co., Station 33, Kalamazoo, Mich.
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Please mention Bee Journal when writing

THE SPRAYING SEASON.—Time moves so rapidly that trees and vines will be in blossom and setting their fruit again almost before we are aware of it. This means that the spraying season will be upon us shortly and that now is the best time to decide what means shall be employed to save the berries, fruit, etc., the coming season. Nobody stops to consider the advisability of spraying in these times. It is not only now thought to be advisable but absolutely necessary to successful fruit-culture. This, then, leaves the small fruit-grower, orchardist and others merely to the selection of the particular spraying outfit which he shall use. In this connection we wish to direct the attention of our readers to the line of spraying goods manufactured and regularly advertised in these columns by the Deming Co., of Salem, Ohio. In their bucket, knapsack, barrel and power sprayers they cover completely the entire line, and the Deming goods leave nothing to be desired as to quality, general utility, convenience and thorough and effective work. Their "Simplex," "Century" and "Peerless" barrel sprayers with special mechanical agitators and all brass working parts, are ideal general-purpose outfits. The Deming nozzles and spraying fixtures are of equal superiority. Write them for their illustrated catalog and Spraying Calendar, free. Send 10 cents in postage stamps for a copy of their valuable and comprehensive little book, "Spraying for a Profit." Please mention the American Bee Journal when writing them.

FOR SALE!

20 colonies of good business bees, well Italianized, in 8-frame hives; perfectly healthy, never had foul brood in apiary. $4.00 a colony, f.o.b. Berlin, Wis. K. C. LUCKEY,
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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; [or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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A Nebraska customer when ordering a new supply of our fine Alfalfa honey in 60-pound cans, said: "The last I got went like hotcakes." So it does.

More people might do well hey would order this honey, or basswood, and sell it. It not only goes off "like hotcakes," but it is mighty good on hot cakes.

See honey-offers on page 234.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL

THE SURE HATCH INCUBATOR.—While hot-water incubators are very generally admitted to be superior to the hot-air kind, a number of manufacturers, with a desire to cater to every opinion and catch their trade either "coming or going," continue to make both kinds. Usually they claim that in the hot-water make they have something superior to anything on the market, and in the same breath weakly insist that their hot air machines are "just as good." There is no such equivocation about our advertising patron, the Sure Hatch Incubator Co., of Clay Center, Neb. They direct their energies toward making the best incubator possible and always on the hot-water principle. Their straightforward course seems to have brought most gratifying results. Their good name has spread to all parts of the country. Wherever one of their incubators or brooders is introduced and put to the test, multiplied sales follow in a reasonable time. It is the proud boast of the Company that their most effective advertising has always been the work of their machines. The latest catalog of the Sure Hatch Incubator Co. is a valuable work on poultry-raising. Any of our readers interested should write for it, whether they contemplate buying an incubator or not. Look up their advertisement elsewhere in our columns and direct to Clay Center, Neb., mentioning the American Bee Journal.

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Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand.
The freights from Cincinnati are the lowest.
Prompt service is what I practice. Satisfaction guaranteed.
Catalog mailed free—send for same.
The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.
You will save money by buying from me.

Orders taken for Queens—GOLDEN ITALIANS, RED CLOVER QUEENS, and CARNIOLANS. For prices I refer you to my catalog.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Apr. 7.—Choice white comb honey produced from basswood and white clover is scarce, and brings 15c; all other kinds of white is in over supply, and the market is weak at 12@13c; light amber grades, 10@11c; dark, 8@9c; candied and mixed lots, 7@8c. Extracted weak, with white ranging from 5½@6½c; amber and dark, 5@5½c. Beeswax selling at 32 cents, and in good demand. R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5½@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH CO.

ALBANY, N. Y., Feb. 21.—Our market has not been so empty of comb honey in a long time. Fancy white comb, 15@16c; No. 1, 15c; dark and buckwheat, 13@14c. Extracted, buckwheat, 6c. Beeswax, 30c. H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c; Florida honey, in barrels, 6@6½c. BLAKE, SCOTT & LEE.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

CINCINNATI, Apr. 11.—Stock of comb honey here is larger than it ought to be at this time of the year, and this is why it is offered for very low figures. Water-white is sold at 14@14½c and hard to obtain; for extra fancy, 15c.

Extracted finds a steady sale, and amber is sold in barrel lots for 5@5½c; water-white alfalfa sells from 6@6½c, and white clover brings from 6½@7c. Beeswax scarce at 30c.
C. H. W. WEBER.

NEW YORK, Apr. 7.—Comb honey, last year's crop, practically cleaned up, but as we wrote a little while ago we had received new crop from Cuba, and are now receiving new crop from the South. Demand is fair at 14c for fancy white, 13c for No. 1, 12c for No. 2, and 10@11c for amber.

Extracted: The market is decidedly dull. Very little demand, with large stocks on hand, some of which no doubt will have to be carried over, and indications point to a further decline in prices. We quote: White, 6c; light amber, 5½c; amber, 5c; Southern, 52½@58c per gallon, according to quality. Even these prices are shaded in car lots. Beeswax, scarce and firm at 29@30c. HILDRETH & SEGELKEN.

BUFFALO, March 28.—Buffalo is very quiet on honey, except very low grades at very low prices. We quote extra fancy, 4c; No. 1, 12@13c; other grades, 8@10c. Extracted, 5@6c. Beeswax scarce; fancy, 28@30c; dark, 22@25c.
BATTERSON & Co.

SAN FRANCISCO, March 12.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4½@5c; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

While spot stocks are of rather light volume, holders show more inclination to unload than they did a month ago. Although quotable values are without marked change, concessions are granted to buyers which would not have been thought of at the beginning of the year. A large proportion of the honey now offering is comb of medium grade.

WANTED. EXTRACTED HONEY—either large or small lots; parties having same to offer, send samples, and best prices delivered at Cincinnati, Ohio. We pay cash on delivery. THE FRED W. MUTH CO.,
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Cash Buyers for Farms or other real estate may be found through me, no matter where located. Send description and price and learn my successful method for finding buyers. W. M. OSTRANDER, North American Building, Philadelphia, Pa.

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We have a Large Stock on hand and can ship promptly.

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Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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Standard Belgian Hare Book!

BY M. D. CAPPS.

THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

Price, in handsome paper cover, 25 cents, postpaid; or with the American Bee Journal one year—both for only $1.10.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

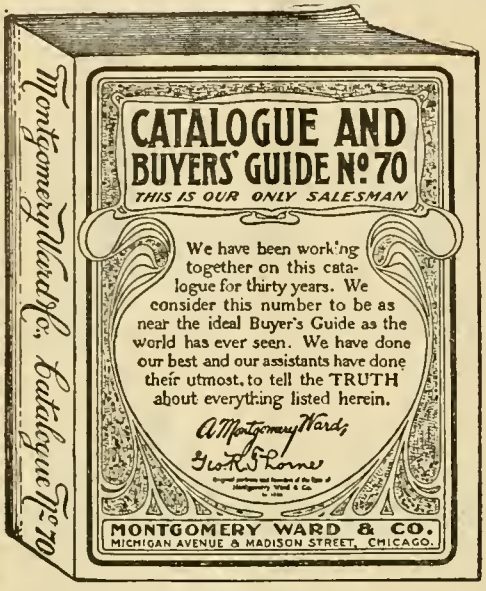
CHICAGO, ILL., APRIL 24, 1902.

FORTY-SECOND YEAR
No. 17.

WEEKLY

APIARY OF ALBERT ROZELL, OF LOS ANGLES CO., CALIF.
—(See page 268.)

Know What Your Dealer Pays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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., APRIL 24, 1902. No. 17.

Editorial.

Quoting the Honey Market.—An editorial on page 195 has called forth the following:

EDITOR AMERICAN BEE JOURNAL.—

Dear Sir:—Referring to "Quoting the Honey Market"—editorial page, 27th inst.—"It is better to quote a cent lower rather than a cent above," etc. Our Great Teacher said that our conversation should be yea, yea, and nay, nay. "The truth is mighty, and will prevail," although all the commission men come to your rescue. Don't make a fight on that. Yours truly,

C. C. PARSONS.

The fact that a lower quotation than the market leads to less trouble than a higher quotation is by no means an argument that either one is as good as a correct quotation; and at this end of the line there is implicit confidence that it is the wise thing to obey the precepts of the Great Teacher. So it has constantly been the effort to tell "the truth, the whole truth, and nothing but the truth."

One of those things that no one with an editorial experience will be likely to label as belonging in the list of things so easy to be done that they do themselves, is the matter of pleasing everybody, and especially is this true with regard to the matter of market quotations. There are those that believe it would be better to have no market quotations whatever; but it is not likely that this number is very large; and a conviction that by far the greater number of bee-keepers desire to have such quotations continued has been the warrant for their continuance.

Again, the opinion has been expressed that it would be better to give the price of comb honey and omit that of extracted; and it is possible that the exact opposite of this opinion may be entertained.

Neither does the foregoing complete the list of dissenting views, as witness the following:

MR. EDITOR:—Why do you print in the honey and beeswax market quotations the name of one firm in each city? If it is meant as an advertisement of that firm, and you get pay for that advertising, I have nothing to say. But I do not see the sense in taking up room with the names otherwise. It hardly seems the fair thing to others in the same place equally trustworthy, even if they do not do so large a business; and if it is a matter of free favor, should you not favor the weak rather than the strong? I have looked through my daily, which has one page pretty well filled with market quotations of nearly every commodity under the sun, and I do not find the name given of the man who sells hides, or of the one who sells butter, or onions, or anything else. Of course, you ought to know your own business, but I thought it would do no harm to tell you how things look to others. HONEY-PRODUCER.

Not entirely in agreement with this is the view that a full list of dealers or commission men should be given.

Does it not appear pretty clear that these diverging views can not easily be all carried out at the same time? There is a large capacity for the reception of advice at this office, and further installments of that article will be cheerfully received. But please don't insist on it that we must follow all that is supplied.

A little later we expect to publish the views of the commission men on the subject of quoting the honey market. Then there'll be some interesting reading for "Rip Van Winkle," as well as others.

Traite Pratique Pour L'Elevage De Reines (Practical Treatise on Queen-Rearing), is the title of a little work of 90 pages just issued by Giraud-Pabou & Fils, in France. It gives the latest methods in use in this country, for which it seems desirous to give full credit (unless it be in the case of Pridgen's nursery and West's cell-protector), and gives especial credit to "Doolittle's magnificent work"—"Scientific Queen-Rearing."

Tarred Paper as a Winter Covering.—After another winter's trial of black tarred paper tacked or tied about hives. Arthur C. Miller says in the American Bee-Keeper:

In the matter of warmth I find that the wrapping of tarred paper about single-walled hives continues to work most satisfactorily. During the past winter I have had seven colonies so protected, and they are now in prime condition. The black surface of the paper absorbs the sun's rays, and the hives are warmed through and through, and yet the bees do not seem to fly abnormally or in unseasonable weather.

The Proper Naming of Swarms is a matter not without its difficulties. Take just the three terms—prime swarm, first swarm, and second swarm. Very likely nine out of ten will say, "A prime swarm is just the same as a first swarm—the swarm that issues first in the season from any given colony; and a second swarm is the next one that issues after the prime or first swarm."

That looks simple and easy enough, and it would be so if nothing but the time of issuing were ever taken into consideration. But the same man who gave the foregoing answer will say, "A first swarm has a laying queen, and a second swarm has a virgin." Then comes a colony which by some means has lost its laying queen, and the first time it sends out a swarm there is a virgin queen with the swarm. According to the first statement it is a first swarm, according to the second statement it is a second swarm. Dadant's "Langstroth" speaks of a prime or primary swarm with a young or virgin queen. Root's "A B C of Bee-Culture" says that a swarm with a virgin queen is an after-swarm.

The only object of the present paragraphs is to call attention to the confusion of terms, in the hope that in some way the matter may be straightened out.

Black and White Hives.—At the Chicago convention Secretary Moore said that to satisfy his desires a hive should be painted at least twice a year—white at the coming of hot weather in summer, so as to keep the hive cool, and black when cold weather comes in the fall so as to attract the rays of the sun. He has held that opinion for some time, and no one has objected to the desirability of such a thing, but it did not seem an easy thing to accomplish. Now that Arthur C. Miller seems to have made a success of using black tarred paper as a winter wrapping for hives, there seems nothing in the way of his at least trying the plan of white and black.

Sugar for Bees.—An interesting discussion as to the right kind of sugar for bees is published in Gleanings in Bee-Culture, in which W. K. Morrison contends that beet-sugar is unsuitable for bees, and Melvin R. Gilmore contends that there is no difference whatever between refined cane-sugar and refined beet-sugar. It is somewhat hard to decide which has the better of the argument. So long as all agree that cane is at least as good as beet-sugar, it might seem the part of wisdom to prefer the cane. Unfortunately for the possibility of carrying that out, we are told that by far the larger portion of sugar on the market is beet, and no one can tell one kind from the other.

Excluders Under Section-Supers.—Some say they are not needed, while others say that without them the queen will go up and lay in the sections. This difference of opinion may result from difference in conditions. With plenty of room below there is little inducement for the queen to go above to lay. Yet with plenty of room below, if there is no drone-comb in the lower story, and room for it above, the workers will be likely to build drone-comb above, and the queen will be likely to use it. If the sections are filled with foundation, so that no drone-comb can be built above, the cases will probably be rare in which the queen will go above. If small starters are used in sections, with no drone-comb below, it will be a safe thing to use a queen-excluder.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 246.)

DEPTH OF FRAMES FOR WINTERING.

"Do bees winter better on frames deeper than the Langstroth frames?"

Pres. York—How many think that bees winter better on frames deeper than the Langstroth? Five think so, and I suppose the rest don't think so, or perhaps don't think at all.

Dr. Miller—I haven't a preference.

Mr. Dadant—I prefer deeper frames than the Langstroth because there is more honey over the cluster. They tell us that the bees can work as well back as up. They can't have it warm enough. I have seen bees starved to death many a time with honey on the side. I don't think anybody ever saw bees starve to death, or freeze to death, with honey above them. I suppose others, as well as I, have seen the bees starve to death with honey just a little over on the side.

Pres. York—It often is too cold for bees to move sidewise in the hive, but the heat going up, they can go up.

Mr. Baldridge—If you have two sets of six-inch or shallow frames, you have the same as a top hive with twelve-inch frames. In fact, you have a better hive for wintering, because there is a space between the two sets that will enable them to pass; but if in the cellar, it makes no difference how shallow, they will reach the honey if it is in the hive, if you keep it as warm as I keep mine, 40 or 50 degrees.

Mr. Riker—My experience is that the best wintering is in the Langstroth frame. I suppose Mr. Dadant's frames are a little deeper than the Langstroth.

Mr. Dadant—A little over two inches deeper.

Mr. Riker—But with the Langstroth frame properly filled with honey, it will take any colony of bees through the winter, properly protected. I put 100 colonies in proper condition, and all will come out unless they become queenless, not on account of the frames not being right depth.

RACE OF BEES FOR COMB HONEY.

"What race of bees would you recommend for comb-honey producers?"

Pres. York—How many would recommend the Italian bees? Fourteen.

Pres. York—How many would recommend Carniolan bees?

A Member—I don't know anything about them.

Pres. York—How many would recommend black bees for comb honey? One.

LONGEVITY OF BEES.

"What is the cause of longer or shorter lives of worker-bees?"

Dr. Miller—Work.

Mr. Dadant—Outdoor work.

Mr. Riker—I would think it was the proper manner that the queen was reared. I have had a little experience in that line. Some queens are reared according to Nature. I never have known queens reared that way but what would produce good, long-lived bees. I have known queens reared otherwise than in accordance with Nature that would live 20, 30, 60 days; the result was, it took the queen all her time, that is, the colony wouldn't increase. The bees would die as fast as she would lay eggs to produce bees, where, on the other hand, bees would be three or four generations in one hive.

Mr. Dadant—What do you mean by three or four generations?

Mr. Riker—Three or four sets of bees—three or four months. The queen will lay eggs for three or four months and all those bees would be retained in the hive. I have had queens that would produce bees that would live from the first of September until the first of June—good, strong colonies without the queen in that hive.

Mr. Dadant—Suppose you took those first bees on the first of May instead of September, how long would they live? Suppose you introduced a queen of another color, how long would those bees live?

Mr. Riker—The first of April I have taken queens from bees, and the first of December I had good colonies yet, almost as strong. Same color. Remove the queen.

Mr. Dadant—Those bees didn't go out to the field. If you put another queen in, that's the way to test that. Take black bees.

Mr. Riker—The best way to test them is to remove them entirely.

Mr. Dadant—Those bees will not go out, because they are discouraged, and they will sit in the hive. Those same bees, if they have a live queen, in less than three months will all disappear. Has any one else ever tried changing from blacks to Italians, and from Italians to blacks?

Three voted.

Mr. Dadant—How long was it before all the bees had disappeared?

Mr. Riker—Well, with me, I have tested it that way. I have tested it by taking the queen from the colony. I have tested it by taking in the fall and putting in again in the spring. That seems to me to be about the fairest way to test the life of the worker-bee. I have taken other queens and in three months from the time I have removed the queen from the hive the old bees would be gone. Those are queens that would rear bees that are short-lived. Take a long-lived queen, and she rears long-lived bees. They always have a good, strong colony. I have never known it to miss. But take the other queens, that rear bees that are short-lived, and you always get a weak lot—invariably they will be weak. One queen need not be any more prolific than the other, but the long-lived bees will be the stronger.

COMB HONEY BY THE CASE OR POUND—WHICH?

"Should comb honey be sold wholesale by the case or by the pound?"

Mr. Burnett—I would like to have an expression from some one else first, but I certainly have bought and sold some honey in the last 25 years, and I have yet to buy the first package by the case; so that answers a multitude of questions, perhaps, on that side. I never could understand how, where I had to dispose of these goods again in ordinary methods that are now in vogue, of exchanging merchandise for money, the question of bother being altogether obsolete with us; but I can understand that where a party has produced some honey, and for so many pieces of honey can exchange it for what he wants in some other merchandise—and perhaps in that case, where both parties know exactly what they are doing, every piece of comb being visible to the purchaser, that a fair understanding can be had: but where honey is to be handled in any quantity, and where we must send to buyers who cannot examine the goods until it reaches them, we must know, it seems to me, what the weight of the merchandise is. There is no way of satisfying all parties concerned like records, and if we have those records—the weights—the number of sections in a package—it is difficult for a misunderstanding to arise from that standpoint. But, if we send a package of honey of so many cases, we don't know the weight of that package, either gross, tare or net, it is liable to disappoint the buyer. For instance, it contains 24 sections, his understanding having been that 24 sections meant 24 pounds. As a matter of fact, it may weigh 15, 16 or 20 pounds, or it may weigh 25 or 28. I am at a loss to understand, really, why there should have been as much business done as there seems to have been done in the last two or three years in selling honey by the case, unweighed. Of course, we have found that parties have bought it that way and have been satisfied, and others have bought it that way and are not satisfied.

Mr. Dunn—Isn't it optional with the merchants of South Water street to sell by the case if they want to sell by the case? There is no question that honey has been sold by the case there; that can't be denied.

Mr. Burnett—We never have sold it.

Mr. Dunn—Then you havn't been using the same concessions other men have been using.

Dr. Miller—I know that Mr. Burnett has sold hundreds and hundreds of cases by the case. Of course he took the weight of it!

Mr. Dunn—Is there one house that controls this market, that can make or break it? I have sold honey two cents a pound higher than I could find anywhere on the market, and I want to say that the quotations in the bee-papers are not always correct. They are behind the times generally two or three weeks, and that's not right to the men that deal in honey.

Mr. Horstmann—I believe honey should be sold by the pound. I don't believe there is any fair way except by the pound. There are a great many different sizes of sections. As to the commission man, I don't care how he disposes of it—by the case or pound—but I think in order to be fair all around, we must sell by the pound when we sell it wholesale.

Pres. York—That's the question.

Mr. Moore—In my experience I have seen sections weighing 10 ounces, and some weighing 20 ounces. As long as the variation is a possible one ounce, which means considerable on a case of 24 sections, it is too far off to sell honey by the case in a general way.

Pres. York—How many are there who sell comb honey through the dealers? Nine. Referring to the market quotations, I rely upon Mr. Burnett to keep me posted for the Chicago market. Mr. Dunn has criticised the quotations published in the American Bee Journal. I want to refer the matter to Mr. Burnett to explain to us whether it is necessary to correct the quotations every day or two, and whether we can rely upon his quotations.

Mr. Dunn—I notice that those quotations are generally two, three and four weeks behind. That's not a fair quotation.

Pres. York—What do you mean by "behind?"

Mr. Dunn—In date. The market 20 days ago is no criterion today. I claim that reports ought to be prompt and up to the publication. We should not have the reports late. Now, then, those reports are what govern the whole country. We find reports from New York three weeks late, and four weeks late, and from Cincinnati. I claim they should as nearly as possible be up to date of the publication.

Pres. York—Do you mean we ought to change the date of them, or change the figures?

Mr. Dunn—No. sir, I want a correct report, actual, as it is. I don't think, sir, with all due respect, that Mr. Burnett should have the say to fix the market, or any other commission merchant. I think it the duty of the editor to go along the street and find out what honey is selling for. He should not depend on one man; there are other men selling just as well as Mr. Burnett. I told you I am selling two cents higher than others.

Pres. York—Now, Mr. Burnett, it is "up to you," as they say.

Mr. Burnett—I wish Mr. Dunn would tell us to whom he sells honey so we can get advantage of the two cents. I didn't know that Mr. York relied solely upon me as to the quotations. I think in a sense he meant to say that he has quotations from me, and expects to get them whenever there is a change in the market, and that is our purpose. As soon as there is any change in price we send in a quotation, and, as a matter of fact, honey has not changed in price here in the last 60 days, and there is practically no necessity for a repetition of those figures. So far as the question of controlling the market is concerned, I don't think many people here, who have any experience, have the idea that I, or any two or three, control the market price of honey. Of course, I have had bee-keepers come in here who sell their honey in Chicago, or as much of it as they can, and sometimes leave the balance with me or somebody else to sell, and they say, "Here, now; why don't you put up that price two cents a pound? You can do it; and if you can do it that helps all of us; we can all get a higher price. If you put it up then we can sell." Now, I took a little pains to find out what the producers of honey in Cook County, who asked me to do that thing, did with their honey. Of course, we know that the majority of the trade of this city, that buy in any of the honey, before they buy they find out what can be done on the general market. I asked many if they knew so and so? "Yes." Have you ever bought any honey of him? "Yes, a little; I bought some a while ago, and he came in the other day and wanted to sell some more." What price did he ask? "He offered to sell a cent less than your price." Of course, I am willing to do my share, as I see it, for a community as a whole, but I don't want to be deluded to putting up a price that is really a fictitious price, and have them go around and say, "You can't buy it on South Water Street. Here is the quotation of Burnett & Co. I will sell it a cent less than they do." That isn't the market. Is what he sells at going to be considered a market? If we put it a cent higher than he is selling it at, that isn't a market. A market is made by two people—the buyer and seller. The buyer says, "I will give so much." The seller says, "I want so much." Now, then, if they cannot come together there, it is no trade. There is no market. If they come together there is a trade, there is a market.

Mr. Dunn—I take it that it is a very large market, and I claim that the price of honey can be advanced to a price so that honey from outside cannot come in and undersell us, when you ask more than quotations in other cities, and what they can bring it here for from other points; but you can afford to hold the honey high enough, and I claim it is the duty of the gentlemen handling honey in this country to make a price. If they are not getting commission enough let them say so; they ought to get a reasonable commission. The commission merchants can't afford to do business unless they get a good commission. It is a small business and they must get a good, round commission, and then hold the price up. I have been told by men among the merchants along the line that there are two houses here that control this honey market. Mr. Burnett is one, and I can't find out who the other is; and these two houses fix the price. I don't know what he thinks; if honey outside is quoted at a certain rate he can afford to quote the Chicago price with added transportation here, and sell at that price, because there is a big market here.

Mr. Burnett—It seems to me it will increase the importation of honey if we quote a very high price, or the highest possible price. If we quote very high prices people will say, "They are getting big prices in Chicago." If we quote lower prices, they will say, "We can get more here." It seems to me it is advisable to quote rather a little lower than the highest price. Another thing, if the bee-keeper in disposing of his honey comes to the market and can't get that price, he will say, "Gentlemen, here are your quotations; now you don't sell for that price. Why don't you?"

Pres. York—It is a big question.

Mr. Dunn—Hogs and cattle are quoted daily, and why should not honey follow the same course?

(Voice from the audience)—Is honey quoted on the exchange?

Mr. Dunn—Certainly, it ought to be. We have a right to see it daily quoted.

Dr. Miller—I noticed today for the first time the quotation of honey in the daily paper—in the Record-Herald. It is the first time I have seen it quoted for years. There is, however, this difference between the market price of honey and that of other articles. For instance, in beef, cattle come in every day and the papers report the ruling prices at which they were sold. Now if those prices did not change daily there would not be the necessity for the daily report of them. If the price of honey changes every day then there is the necessity for a daily report, and I suppose that it doesn't matter, either, how we get these reports, provided we get them correct, and as often as a change is made we should be informed of it. If the American Bee Journal does not report the changes from time to time they are failing of their duty, but I don't know that there would be any necessity for their getting a fresh report so long as there is no change in it, but I believe this: We should know the truth.

Mr. Dunn—That's it.

Dr. Miller—The truth never hurts anybody. We should have the whole of it, whether up or down. We should know as nearly as we can the amount of honey in the country, and that helps to fix the prices. I believe that one man might do something towards fixing the price. I can do a great deal towards fixing the price in Marengo. I defy Mr. Burnett to hurt my market; but if I come to fixing the price in Chicago it is only a drop in the bucket, and I suppose that Mr. Burnett or any other man must be guided by the law of supply and demand. If he gives a false report of the market he is very much to blame for it. It is his business to tell Mr. York what the transactions are, and not what he wants, or anybody else wants. That's what we ought to have—the market for honey. Here is a question that one time came up for me: I see they report so and so in Chicago; then I see at another place it is two cents higher, and as nearly as I understand the matter of freight it will not be two cents from one place to the other: then I say, Why not ship all the honey from Chicago and get that higher market: but this comes in: Any of you who have done very much in shipping honey know that it is not simply the question of amount of freight, but loss and breakage, so that I would rather take a good deal less for my honey in Marengo than have it shipped off. Those things must be considered. I will tell you one of the things that you can do: Whenever you find that the reports are not all right—I said I couldn't do anything towards changing prices in Chicago, but I did once. At one time, a good many years ago, when the daily papers were reporting the market, and anything but correct, I went to the editor's room and laid before him a bill of sale, and showed him just what the prices were, and the commission was just about the average, and I changed the prices then two cents a pound, and any of you can do that. If you have sales, report the sales to the paper, and they may help.

Mr. Chapman—The Daily Trade Bulletin has all of the prices on South Water Street and stock-yards, and also a

separate sheet with the Chicago Board of Trade prices on, and they follow largely the same method that is followed by the American Bee Journal that is quoted for honey, because the price of honey does not fluctuate up or down frequently: that is to say, it is frequently stationary at a certain price, or just about a certain price, for sometimes several weeks at a time, then they don't change the quotations, they don't even change the print of it. It stands sometimes several weeks; but let there be a little difference in price, sufficient to affect more than one house, and they are quick to take note of it in that Trade Bulletin, but with hardly any more change than occurs in the American Bee Journal.

Dr. Miller—The amount of transactions in any one article makes a great deal of difference with the papers and with the market as to the reports. In the daily papers you will find the market for green goods and picked turkeys, but you will not find that they give you the report of market prices of honey, because they say there is so much less, not even enough honey to warrant any quotation at all. You and I think there is a big lot of honey sold, but compared with cheese it is a small matter. They will only report things in which there are large transactions. I doubt very much whether there are more than two or three men here who can give me the fair market price of turkey-feathers just now. I can't straighten you out if you don't know anything about it. That's just what applies to this honey-business. If we can produce enough of it and get more on the market we will have more exact prices. So long as there isn't enough of it so that the daily papers feel warranted in giving any quotations at all, you can't have the thing figured down.

Mr. Dunn—Where the bulk of the product is in the hands of two houses they can protect the market. Take the outside markets and compare them and the cost of transportation here. They can get that price. They have to make the money on it. They have the right to a liberal commission, but I want Chicago to stand as high as it can stand, and it can afford to stand transportation added as well as any one in the market.

Dr. Miller—There is no law that I know of against allowing Mr. Dunn, when the market is two cents higher elsewhere, and one cent for transportation—no law against Mr. Dunn buying out these two houses and transporting it. [Applause.]

Pres. York—I rely upon Mr. Burnett to give the proper quotations. I believe he can tell the truth; I have felt pretty sure in the quotations. I would like to have him raise the market two cents, if he can.

Dr. Miller—If he can raise the market two cents we ought to raise his wages.

Mr. Dunn—Yes, sir.

(Continued next week.)

Contributed Articles.

No. 7.—Apiculture as a Business.

A Discussion of Selling by Weight or Case—Which?—The Cause of Light Weights—Colorado Grading Rules All Right—Two Sides to the Question.

BY R. C. AIKIN.

[NOTE.—Since the following article was written there have been several articles and editorials on the subject. But, as the ground has not been fully covered by any, and this article touches a number of points not at all considered by other writers, I think it best to let it go without re-writing. I recommend particularly that the reader note the abuse that may be made by the middlemen of buying by weight and selling by the case. Also, do a little figuring on the cost of cases and sections, and you will see that there is nothing gained by producing light-weight honey. Three pounds more honey in the case pays for the case and sections, approximately.]

IN No. 6 [page 167] I dealt somewhat with the questions of separators to obtain even-weight sections, and of selling "by the piece." While the thought is before us, I may as well pay my respects to the Editor, and to Mr. Burnett.

I think I see Messrs. York and Burnett doing a retail business, each handing out 14-ounce pounds to customers who pay for *16 ounces*. They sell also maple syrup at $1.50 a gallon, and give me 11 pounds, *can and all;* canned fruits at so much for so many—1, 2 or 3 pound cans, "shorts;" 48 pounds of flour when I ask for and pay for 50 pounds; and on and on through a long list of articles.

I hear my friends in Chicago laughing when they have read thus far, and, between their fits of laughter, saying to me, "Everybody does so; it's the custom, and the can, bag, box, etc., are worth, or cost, something." Then they turn to the wholesale-house man who has just come in, take him into the private office and "raise Ned" with him because he insists on selling flour by the hundred-weight, that is, four pounds short; and all other goods in like manner. Excuse me, I mean they treat the "traveling man" like a king, and do the "Ned" act with honey-producers who sell honey at so much a case, guaranteed so much per case average, with a minimum below which no single case may go.

York and Burnett, stand up. Now, sirs, tell me how we came to produce short-weight sections. Tell me if it was the bee-keeper, or the wholesale buyer, or the retailer, or who it was that wanted 14-ounce sections, or originated them. Do you say none of them? Possibly you are right. I do not think that any one specially devised or brought out a 14-ounce section with a view to selling a "short" pound. I suspect so good, fair and honest a man as A. I. Root, and possibly some other good men, had something to do with it. The plan was to have a 4¼x4¼ pound section that would fit a certain place. This same section was originally very largely used two inches thick, and was intended to hold a *full pound*.

Later it was found that a two-inch-thick section was too thick to be quickly and neatly finished by the bees; then came the idea of reducing the thickness to get a nicer and better-finished one. The prime object sought was the quality of the goods, and when bee-men found that the thinner section was in fact a nicer one, they consoled themselves with the thought that, if they could not supply a full pound in the thin section they could make it up in quality, thus no one was harmed. Possibly some have been guilty of selling the short-weight section with the hope to increase profits thereby; but, sirs, that thought did not originate the short-weight; but will you deny that the 48-pound 50-pound sacks of flour, etc., had not so good an excuse back of them?

The bee-man can produce a neater and more salable article in a section thinner than two inches; and, knowing this, we use a thinner one. We would use a thinner still if it were not that the weight would be altogether too much reduced. You see we can not change the other dimensions of our sections without a great expense in changing hives and such, hence we are trying to do the very best we can under the circumstances.

Then, too, conditions of the colony, strength of the honey-flow, and a great many things conspire to make a variation in the weights of sections of honey, but the fraternity, as a whole, are striving to obtain the most even results. If we were to-day—knowing what we do of the science of the business and needs of the trade—to be placed in a position in which we were to start all anew—hive-making machinery, size, shape and proportion of hives—in short, with present knowledge but everything to build anew, I would make some changes that would be for the better in obtaining an honest and best pound of honey. I believe thousands of others feel just the same way.

So the light-weight section came, and came not simply of choice, or premeditated for fraudulent ends. Once here, no doubt *some* bee-keepers who retailed honey thought to increase profits. And, some retailers not bee-keepers, saw that to buy 22-pound cases of honey at 10 cents a *pound*, and retail at 12½ cents a piece, meant 80 cents profit, where a 24-pound case bought and sold in the same way would only give a 60-cent profit. This made an inducement to demand a 14-ounce section, and that it be sold to the wholesale and retail merchants by the pound.

Now, sirs, Messrs. York, *et al.*, can not you see that when I produce light-weight sections to sell *by the pound* that it is to your interests, and yours only? One thousand sections for light-weight use cost me *almost*, if not *quite*, as much as for heavy-weight use. Cases ditto. And, when you make me sell to you by weight it is plainly your advantage and *my* loss. If I am to sell by weight I want 18-ounce sections, for then I have the pay for four ounces more honey, and the sections and cases cost me no more than for light-weight goods. A case of 14 ounce sections at 10 cents a pound brings $2.10, while a case of 18-ounce ones at the same price brings $2.70—enough to pay for the case and sections, and approximately a good, big 25 cents a case net profit besides.

But something is wrong. I should not sell 14 ounces of honey for a pound, nor should you. You should not want to buy my honey by weight and sell by the piece, nor any

such thing. The bee-keeper who produces light-weight honey and sells it by the case without specification or limit is decidedly wrong—just as wrong as the wholesaler and retailer who wants him to produce light-weight sections to be bought by the pound and sold by the piece—the whole thing is of the same rotten piece of cloth. This everlasting shifting and changing to gain a temporary advantage over somebody is a sad thing in our commercial life, I care not who does it.

I have told you somewhat of how and why we have a light-weight section, and that which follows—light-weight cases. Not every middle man has been guilty of taking advantage of it as herein indicated, but such things have been done. Having studied out all these things, threshed over and over the straw to get every grain of truth in it, Colorado bee-keepers have adopted a fair and honest method of grading and selling. The proof of my statement is in our Grading Rules, which specifically state that certain minimum weights shall obtain in every case. Any buyer who buys under these rules, so far as weights go, *is protected*, and so is the producer. I defy any man, whoever he may be, to prove to the intelligent reader and business man, that there is any more fair and honorable plan than that adopted by the Colorado State Association. It shows in itself that it has honesty as its basis—the greatest amount of protection to all concerned.

Again, I wish to call the attention of producers to the idea of profit or loss as between light and heavy weight sections. On the basis of general averages, prices of commodities will adjust themselves sooner or later, and any gain you can hope to make by light-weight sections is only temporary, soon discovered, then a readjustment comes. If you do have less than a pound in a section, when you sell by the pound you are the loser, because your cases and sections cost you just as much for light as heavy weight. If you sell by the case and have not the weight therein—if the shortage is known it only creates suspicion, prejudice, and a disposition to hold you down to a lower price. The honest pound gives confidence, and should be striven after. But, as every bee-keeper knows, it is impossible to have absolute uniformity of weight, but you can hold confidence and present a fair basis by guaranteeing and selling a minimum weight per case—it is fair to all, and should be done by all. Colorado Grading Rules are a protection to buyers, and the buyer purchasing under these rules gets all or more than he pays for, because every case is to weigh so much, a minimum limit placed on each individual case, and a general average on the whole lot, so there can not be any "pig in the bag" about it.

If honey must sell at wholesale by the pound, it must also sell at retail by the pound, but it *does not*. The "pig in the bag" does not apply to Colorado, but the "nigger in the wood-pile" has been made to serve to the hurt of some Colorado honey-producers. Our rules are all right, and every buyer should insist on their observance when he buys; their enforcement protects the wholesale buyer, and limits the producer, preventing fraud. The very purpose of the adoption of our rules was to *avoid sharp dealings*. It is the common understanding that 24 pounds is a case of honey, and buyers knowing this will buy a car of honey to be delivered in Chicago, or other market, at say 10 cents a pound, or $2.40 a case. When the honey arrives, and the buyer weighs it—which he will do—and finds only 21 pounds to the case instead of 24, he kicks, and having everything his own way because the honey is in his possession, he refuses to pay $2.40 a case; he will pay but $2.10, because he bought at $2.40 a case, and the case is three pounds short.

We have, therefore, adopted a standard of weights, so that while it is impossible to have absolutely even weights, we can have a rule that protects each way—both seller and buyer.

But the Editor will *again* ask, "Why not sell simply by weight?" Well, if we sell *simply by weight*, why, sir, I will put into first grade honey every very nice 10, 12 or 13 ounce section—its *only* fault being light weight, and thus there may be sold as No. 1 honey many cases as light as 15 to 20 pounds. But our rules will compel the producer to put in a minimum weight in every No. 1 case, and, no matter how fancy his honey may be otherwise, he must have *weight*, too.

Larimer Co., Colo

(To be continued.)

The Premiums offered this week are well worth working for. Look at them.

No. 3.—Improving the Races of Bees.

BY ADRIAN GETAZ.

(Continued from page 247.)

INFLUENCE OF PREVIOUS MATING.

The opinion has often been expressed that while the egg producing a drone is not impregnated, it may nevertheless be influenced by the drone which mated with the queen. In support of this the assertion has been made that a young animal sometimes resembles not only his father and mother, but also the male which had mated with the mother at some previous time.

We will discuss the second question first. Such an influence in an impossibility. When the female germ (the scientists call it the egg) is ripe, it cuts itself completely loose from the organ that produced it and decends in the womb; there it meets the male germs. These are extremely minute, being possessed of a distinct and independent life. The majority of them soon die and are thrown out. Some meet the egg and enter into it. When the egg is thus impregnated, a sac is formed around it. The egg develops itself from within—inside of that sac. The only communication that the new being has with the mother is an opening in that sac, through which the blood of the mother brings nutriment to the offspring, and carries out the rejected matters.

How could the male germs have an influence later on, when they were never a part of the mother's body, when they were completely loose, as foreign bodies would be, and soon die or become a part of the young offspring?

Now I will answer some of the arguments in favor of this doctrine. In the first place, the fact that a calf or colt sometimes resemble the male used in a previous mating has hardly any value as an argument. A number of calves and colts are neither exactly like their mother nor exactly like their father, especially in regard to color. That occasionally some would resemble a male previously used is no more than should be expected.

The case of fowls is altogether different. The fact is, that one mating is sufficient to impregnate the eggs for several days, from 5 to 8 or even 10 days. That is, the male germs live in the hen's body that length of time, ready to impregnate the eggs as they come to maturity.

Suppose that before the 5 or 10 days are over, another mating takes place; then for a few days that hen will carry the male germs from both roosters, and whatever eggs mature during that time may just as well happen to be impregnated by the germs of the first mating as by those of the second. The chicks resulting will actually be offspring of the first mating. In this case, like in the preceding, there is no back influence from a previous mating. For full information on this subject, see the scientific works on physiology. The elementary books found in the schools and ordinary bookstores are not sufficient. Munn & Co., of New York, N. Y., can furnish any scientific book published anywhere, and give the information necessary to make the right kind of purchase.

Concerning bees, the assertion is that the drones, though born of unimpregnated eggs, are, nevertheless, influenced by the drone which mated with the queen.

In the first place, this alleged influence is an impossibility, as far as we can ascertain. When a queen mates, the drone-germs enter in a sac situated near the end of her body. The pressure of the mating operation opens the sac and puts the germs in. Then the sac closes and they remain therein, entirely cut off and without any communication with any other part of the queen's body.

The eggs are formed in what are called the ovaries, situated farther up in the queen's body. As they mature, they separate and come down through what might be called a tube, and pass before the sac containing the drone-germs and are discharged. The sac has a small aperture which the queen can open for an instant, when an egg passes. If she opens it one male germ slips out and enters into the egg through an opening that exists there. The egg is then impregnated and becomes a female egg possessing the rudiments of the organs of both queen and worker. The amount and quality of feed given during its development determines which set of organs will develop. If the egg is not impregnated, it will produce a drone, no matter whether the queen has mated or not.

The proof advanced in favor of the above assertion is something like this: An Italian queen mates with a black drone. Her workers are of course hybrids. According to the principles generally accepted her drones ought to be pure Italians, but they are darker than the apiarist expected.

How is it? Well, in first place, as we have no control of the mating, we can never be sure that a queen is absolutely pure Italian, but even if she was it would be no proof. The Italian queens and drones vary greatly in color, some are quite dark. The fact that the drones were darker than the apiarist expected does not prove that they were impure or were influenced by the drone that mated with their mother.

WHAT SHALL WE BREED FOR?

Honey-gathering qualities, of course. Gentleness, capping the honey white, etc., will be considered to some extent, but the honey is what we are after. And the queens whose colonies give the largest surplus will be the ones to breed from.

I mentioned once the fact that in breeding for honey we are working in the same line as Nature does, and, therefore, we could not expect such results as have been attained with other kinds of domestic animals. For instance, the faculty of producing milk has been left almost completely undeveloped in the wild animals. We take the same animal and develop that quality away beyond what Nature does in the wild state. But suppose that we were to work in the same line as Nature; suppose, for instance, that we would try to prove the hardiness of the Texas cattle, we would then make but little progress, because that quality has already reached the limit, or nearly so.

This is very nearly the case with the bees. The qualities tending to honey-gathering—such as activity, hardiness, etc.—are already well developed, so there is not room for very much improvement, as the limit attainable cannot be very far.

That is not very encouraging. To offset it we must remember that a very little improvement might increase the surplus considerably.

In feeding back extracted honey to complete the partially filled sections it has been found that a good colony of bees consume 1½ pounds of honey per day. That honey goes to sustain the life of the bees, keeps the necessary heat, feeds the brood and produces the wax; it cannot be doubted that the same amount is required during the honey-flow. Through the winter something like 25 pounds is used. After the honey-flow, perhaps half a pound a day. Half a pound of honey for perhaps 20,000 bees is a mighty small daily ration for each one, considering that there is always a little brood reared, and perhaps some wax secreted.

Upon the whole, a colony of bees of normal size consumes something like 200 pounds of honey every year, at least, and probably more.

We have a colony that gives us 40 pounds of surplus; that means that 240 pounds have been gathered in all. Now we improve the stock, and the colony becomes able to gather ⅙ more, only ⅙. The total gathered will be 280 pounds instead of 240. Deducting the 200 pounds consumed, we have now a surplus of 80 pounds—double what we had before.

SIZE OF BEES.

Would we gain by breeding a large-sized kind of bees? Notwithstanding the contrary opinion of some high authorities, I say, unhesitatingly, Yes. Granting that a large bee would not fly faster than a small one, and granting, also, that she could not suck the nectar out of the flowers faster than the small one, there would yet be a saving of time going and coming. For the large bee would bring in the same quantity of nectar in a less number of trips to the field and back. But it is probable that the large bee would fly somewhat faster, and it is almost certain that she could suck the nectar from the flowers faster, on account of a larger tongue.

In order to breed larger bees it will be necessary to use foundation with larger cells, for a bee cannot be larger than the cell in which she has been reared. If any one doubts the correctness of this last statement, let him look at the drones reared in worker-cells. That will settle it.

The increase of the size of the cells should be gradual, otherwise it would be difficult to avoid and overproduction of drones.

There is a limit to the size of the cells that can be used. Too large cell would not hold the honey; that is, the honey would run out of it. It is probable that cells of drone-size, or perhaps a fraction larger, are all that can be used. This might give us bees the size of the famous "Apis dorsata".

In India and other parts of South Asia are found several kinds of wild bees, some of them the size of our bees, some much smaller—and finally the Apis dorsata, much larger. While this last gathers a considerable amount of honey, the small kinds do not gather enough to speak of, and never more than they can use.

LONG TONGUES.

I am not going to rehash the subject. I want only to bring out one point that has been neglected.

With the increase of population and improvements of farming, the forests, pastures, and other present sources of nectar, will decrease and disappear; red clover will be more and more cultivated as being the chief crop of a good system of farming. And the time comes when it will be almost the only honey-plant available. Other things being equal, the largest bees will evidently have the longest tongues.

INFLUENCE OF LOCALITY.

Yes, locality and also management. Let me give some examples: John Smith lives in a good-locality; plenty of flowers and to spare. Bees with short tongues will find all they can gather, as well as those with long tongues. Then the colonies giving the largest surplus may just as well be among those with short tongues.

Jim Jones lives in a poorer or overstocked locality. There are not enough flowers accessible to short-tongued bees to enable them to furnish a good surplus. After that they will be idle, while the long-tongued bees will continue to gather from deep-corolla flowers. Result: The long-tongued bees will give the most surplus. Jim Jones will breed from their queens and eventually create a race of long-tongued bees.

Gilbert M. D. uses a small hive, or, rather, brood-nest. The colonies with very prolific queens fill it early, and then swarm for lack of space, and just as often as not keep on swarming during the honey season. No surplus, or very little.

Those with queens not very prolific do not get crowded, and refrain from swarming. Colonies that do not swarm are those which give the largest surplus. These Gilbert will choose for breeding purposes, and eventually create a strain of moderately prolific bees.

Camille P. D. uses Dadant hives. Queens not very prolific do not fill the brood-nest in time for harvest. They keep at it during the honey-flow, and when the colony is ready to go "up-stairs" it is too late to do much good. Those very prolific fill that big brood-nest with a whole army of workers in time for the harvest, and when the flow comes a big surplus is stored. Result is, Camille selects these prolific queens as breeders, and creates a strain or prolific queens.

A contribution of mine on the same subject (August, 1901, page 646) was bitterly, and I think unjustly, criticised in the Bee-Keepers' Review (for November, 1901.) To those who might think the above is not exactly what it ought to be, I will say this: Instead of indulging in cheap critism, write a better article on the same subject, if you can; and if you succeed I will be glad of it, for I will get the benefit of it.

Knox Co., Tenn.

Value of Good Queens, and Methods of Queen-Introduction.

Read at the Wisconsin Convention in February, 1902.

BY ADA L. PICKARD.

IT is not that I choose to come before this assemblage, nor is the subject before us one of my of own choice; but since a number of the members of this Association asked that the secretary contribute a paper, and suggested the present topic, I was willing to do what I could to help the convention along, and so it may be said of me as it was of the widow who gave her mite, "She hath done what she could."

No adage is more true than, "What is home without a mother?" and just so true is the statement, What is a colony of bees without a good queen? By a good queen I do not mean a beautiful queen to look at, but one that is prolific.

Upon no other one thing does the success of the apiarist depend as it does upon the queen. Give me a good queen—one that can be brought up to the highest production of eggs just at the time they are wanted—and I will promise you a honey crop, if the flowers do not fail to secrete nectar; but with a poor queen—one that may not even be coaxed to lay to little or no purpose at the proper time—the flowers may bloom and secrete large quantities of nectar in vain.

I must confess that we have had queens at different times in our apiaries that, with all the coaxing we could bring to bear upon them, would not lay any more eggs pre-

THE HOME APIARY OF MRS. W. J. PICKARD, RICHLAND CO., WIS.

vious to the honey harvest than would keep up the spring strength of the colony; and when the flow was at its best, there would not be ¼ of the number of workers there should be. No doubt these were good, prolific queens one day, but at this time they were old, worn-out queens, proving themselves worthless. Those colonies made a failure for that season, all on account of the queens. The more queens of this kind the apiarist has the worse he is off.

So much is being said about implements, apparatus and improved methods, one would naturally think that success depended upon a certain kind of a hive, frame, section, section-case, or some other aparatus or a certain method of manipulation. New apparatus, fixtures, and methods are all right, but it is not wise to lose sight of the one important fact, that the queen is the mother of the colony and it is upon *her* that the strength of the colony depends. Truly, the key-note of success is struck only when the bee keeper sees to it that each colony has a good, young, prolific queen. It is upon the queen that the greatest success is hinged, and until the apiarist awakes to the true value of the queen, just so long will it be until he becomes the most successful. To me it is a plain fact that in no one thing in bee-keeping does quality count for so much as it does with the queen or mother-bee. Of course, if we only desire to count our colonies, then a poor queen is better than none; and then there are other times when she may hold a colony together until we can get a better one; but let me repeat, that an apiary with all poor queens is worse than no bees at all. When we come to the full realization of the great achievements which can be obtained with a really good queen, we, as apiarists, will put forth more energy along *this line* of our pursuit than we ever have done before.

Some may ask why the best colonies did so well. Because they had a large working-force of the right age, at the right time, to take advantage of the honey-flow. This is simply due to a good queen—one doing her part at the right time, and at no other time. The poor colonies failed to do so well because they did not have a full working-force—due to a poor queen or because the bee-keeper failed to have the queen do her duty when she should have done it. Some may ask, "Can I get all colonies to do as well each year as my best colonies do?" I will answer the question by asking, Why not? If all of the colonies are of the same strength, having a full working-force, why will not all do as well as the best colonies? This being true, the trouble lies in not having all the colonies of equal strength, and this condition devolves primarily upon the queen. We may not have all exactly alike, but we may have them aproximately alike—if we work for that object.

Many queens are bred for beauty rather than quality. If we want superior stock we must breed from the superior workers, and by careful selection and breeding one can greatly improve the stock of bees. Pardon for referring to our own apiaries, but we take pride, if I may say so, in giving special attention to the careful selection and breeding of our queens for quality, and for this alone we are well paid in our honey-yield.

Then, too, the wintering problem may be greatly rectified by keeping close account of the age of the queens. We find that we have much better success in wintering with young queens than with old ones. Here is a value of queens that many have overlooked. But a great deal of the success for the coming season depends upon the queens we have put into winter quarters.

INTRODUCING QUEENS.

Perhaps no other one subject connected with bee-keeping has received so much attention in our bee-papers and manuals as has the subject of introduction of queens. Yet, after reading the methods and discussions given, it is plainly to be seen that success does not always attend the efforts. On the contrary, many losses arise from the fact that bee-keepers in general do not discriminate between queens taken from one hive and placed in another, and those which have come long distances by mail. In introducing queens from one hive to another in the same apiary, it does not require one-half the care that must be given to a queen coming from a distance.

In introducing a queen from our own apiary we very frequently use the following methods:

We go to a nucleus from which we wish to get a queen, and, when she is found, we take the frame of brood she is on—bees and all—together with another frame from the same hive, carrying them to the hive from which we are to take the superannuated queen, placing the combs so the queen will be between the two combs; then we secure the poor queen and dispose of her; then we take out two frames brought from the nucleus in their place, puff a little smoke over the top of the frames and close the hive. The object in taking two frames with the queen is so that while waiting outside of the hive she and most of the bees may cluster between them, thus becoming quiet. When placed in the hive both are put in together, thus leaving the queen quite among her own bees. This is a very easy and safe method.

To introduce a queen that has come to me from abroad, or one which I consider of more than ordinary value from our own apiary, we proceed as follows:

First catch the undesirable queen and let the bees remain queenless from 24 to 48 hours. In the meantime prepare a cage as follows: Cut a piece of wire-cloth 4x6 inches, bend up sides (after cutting out a piece one inch square in each corner), forming a tray-like cage; ravel down the edges one-half inch. Then we take the shipping-cage containing the queen and escort bees and release all the escort bees—we do not allow any of the escort bees to go with the queen. Select a comb of hatching brood with some unsealed honey above the brood; place the cage, previously made, on the comb over some unsealed honey and hatching brood, and let the queen to be introduced run under the cage. Press the cage into the comb until firmly imbedded into it, and in 48 hours more, if the bees have not released the queen, she may be released.

I will not mention any other ways of introducing queens. There are probably as many different methods as there are bee-keepers, and with precaution almost any method may be used with success. I will simply start the ball rolling, that we may gather ideas from others.

Richland Co., Wis.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Management of a Queenless Colony.

In looking over my small out-apiary I found a very strong colony with only drone-brood in worker-comb, and some drones already out; also one queen-cell containing a young larva. I moved it away a little distance and put a weak colony from a stand close by in its place. I then put a frame containing brood and eggs into the queenless colony by way of experiment, to see if they would get a queen fertilized with those drones, as there were no signs of any

drone-brood in any of the other colonies, and no other bees within 10 miles.

1. What would you have done under those circumstances?

2. If, as I think is most likely, there is no fertilized queen in about a month, how would you treat that colony?

3. If, about two or three weeks earlier in the season than this (April 6), you found a strong colony to be queenless, without laying workers, would you send for a queen, or unite it with a weaker colony? If the latter, how would you proceed? If you would not send for a queen, why not?

BRITISH COLUMBIA.

ANSWERS.—1. You do not give the time, but, of course, it was earlier than the date of your letter, which is April 6, and if the seasons are about the same as in northern Illinois (you are very much farther north, but you are on the Pacific Coast), I should have united the queenless colony with the weak one, or perhaps with two weak ones.

2. Unite it with one having a good queen.

3. Unite it with a weaker one, perhaps by simply placing one colony over the other with paper between, and a very small hole in the paper to allow passage from one story to the other. I would not send for a queen, because there would be only old bees in the colony very likely, and rapidly reaching the limit of their lives, so that the prospect of building up a good colony by adding a queen would be not the best, and in the long run there would be a greater gain to give some weak colony a better show.

Prevention of Swarming when Producing Comb Honey.

I have all the bees I want, and run for comb honey. How can I best prevent any increase?

Now, Doctor, I am sure you have about the same number of colonies year after year. Please give your best plan. I feel sure all big bee-men have a good plan, yet I have never seen a good explanation of any plan. INDIANA.

ANSWER.—It is somewhat doubtful that any bee-keeper has a plan entirely satisfactory to prevent swarming when working for comb honey. One way is to allow the bees to swarm once if they will, then in the spring to unite so as to reduce to the desired number. Another way is to have all queens clipped, and when a colony swarms kill the old queen. About eight days later listen in the evening by putting your ear to the hive, and when you hear the young queen piping go to the hive the next day and destroy all remaining queen-cells. Another way is more radical, and prevents swarming: As late as you can without risking swarming, take from the colony all its frames of brood and leave it on foundation or starters.

Stimulative Spring Feeding.

I work for comb honey, and want my colonies strong when the honey-flow comes. The books say, "Stimulate brood-rearing by feeding." You said not long since, in answer to some one's question, that "spring feeding is a two-edged sword, a good thing for beginners to let alone." What is the danger? And how can I feed, if at all? or must I wait until I am a veteran? OHIO.

ANSWER.—I don't know whether you should wait till you are a veteran, or whether you are in that class who should never practice stimulative feeding at all. If the latter, it will, I feel pretty sure, be some comfort to you to know that you will have myself for company. I do not feed anything in the line of honey or other liquid food to stimulate brood-rearing, and I do not believe I would gain anything by it. If my bees have enough stores, there is little danger but they will have all the brood the bees can cover, and what more do I want? But it would not be right for me to insist that every one should have his shoes made on my last, although I think it very likely that you and I are alike. Some, however, may have a week or more of nice, warm weather, when bees can fly freely, and yet gather nothing, and in such a case brood-rearing may cease entirely. For such persons it may be decidedly advisable to feed so as to keep up brood-rearing.

As to the danger, there is danger that the inexperienced will feed and excite the bees to flying at a time when it is chilly and windy so that too many bees are lost. If advisable to feed at all, and the feeding is done at a time when it is warm and bees can fly freely, it does not matter such a great deal how you feed. A good way is to uncap or mash down the capping of the sealed honey in the hive.

I said I do not need to give any liquid food, but I do often offer the bees a substitute for pollen, and I am not sure but it stimulates as much as the liquid food, at the same time being safer. If I didn't do it for any other purpose, I'm not sure but I would do something at it for the fun of seeing the bees tumbling around in the meal. You may take almost any kind of ground grain—I use mostly ground corn and oats, which is easy to get—put it in a shallow box, have the box tipped a little to one side, and as often as the bees work down the feed to a level turn the box around. When the fine part is worked out, the cattle or horses can have the rest. As soon as the bees can get plenty of natural pollen, they will desert your meal.

Spraying Near End of Blossoming.

There are a number of orchards near my apiary, and as soon as the bloom falls they are going to spray with arsenic. Now, as a matter of course, there will still be more or less blossoms on the trees that the bees can get at. Is there anything I can do to prevent their being poisoned? I have thought of closing their entrances with wire netting; and I might, if it is absolutely necessary, take some of them to the cellar. COLORADO.

ANSWER.—It is possible that removal to the cellar would be advisable. If the owners of the orchards are intelligent, however, nothing of the kind will be necessary, for it has been decided at the experiment stations most conclusively that it is only a waste of time and material to spray while any blossoms are yet on the tree—not only a waste, but absolutely detrimental to the blossoms without doing any good whatever.

Management for Extracted Honey.

I am working for extracted honey, and use supers the same as bodies, that is, 2-story hives with an excluder between.

I have about 50 colonies in hives one story only, to top out with empty hives. No comb foundation.

Would you recommend putting the empty hive above or below? Or would it be better to give some combs and some empty frames to each story? CALIFORNIA.

ANSWER.—I don't know. Something depends upon what you want. If you would rather not have any swarming, then put the empty story below with the queen in it. If you would rather have the bees swarm, then put the empty story above, leaving the brood below with the queen there. Another thing ought perhaps to be considered: It is claimed by some, and denied by others, that you will have finer honey if you extract from combs in which brood has never been reared. There is probably little doubt that there is a difference, however little the difference there may be, and if you want the finest quality of extracted honey you may prefer to put the foundation above, leaving the queen below.

Equalizing Colonies in the Spring—Increase.

I would like to get your best method of equalizing colonies in spring, and the best method of making increase without swarming.

I have 40 colonies—some at home, others scattered through the country—which I propose to run this season for increase only. I want to increase to 200. I am willing to feed some, if profitable. We have fruit-bloom, perhaps white clover, always sweet clover, and a fall bloom if seasonable. I would like to increase early, about May, so as to build them up strong. INDIANA.

ANSWER.—The quickest way to equalize colonies is to take from the stronger ones all the brood and bees they have above the average, and that will yield enough to bring the weaker ones all up to the same level. But unless your colonies are strong enough to average at least four Langstroth frames of brood to the colony, I should strongly advise against that method of equalizing. Instead of that it is better not to equalize all at once, but to take the stronger ones first. Suppose your colonies vary from weaklings having only one frame of brood each, up to those having 7 or 8 frames of brood. Take brood from the strongest, reducing them to 4 frames each. Then give a frame of brood to each colony that has 3 frames, and, after that, if you have any left, give two frames to each colony that has two, so

long as the brood lasts. Two weeks later you can repeat the operation, not doing anything to strengthen the weakest colonies till all the stronger are brought up to the mark.

Unless you have had a good deal of experience you may make bad work increasing 40 to 200, and you are just about sure to make a bad mess of it if you get up to the 200 in May. Here is one way that I have successfully used: Suppose No. 1 has your best queen. Wait until your colonies are at least fairly strong, and until honey is regularly yielding, and by that time build up No. 1 very strong. Take from No. 1 all its brood with all the adhering bees, leaving the queen to welcome home the returning field-bees. The brood and bees you have taken from No. 1 are to be put on the stand of No. 2, or some other strong colony, setting No. 2 on a new stand. Then go to the remaining colonies, and take from each one all the brood it has beyond 4 or 5 frames, but taking no bees, and give this brood to No. 1. About 9 days later—certainly not more than 10 days later—go to the queenless colony that was left on the stand of No. 2, and divide it up into nuclei having 2 or 3 frames of brood each, making sure that each nucleus has 2 or more good queen-cells centrally located so there shall be no danger of chilling. Then take all brood and bees from No. 1 and put as before on the stand first occupied by No. 2, and fill up No. 1 with brood from other colonies, but no bees. Repeat this every 9 days so long as the flow continues, or until so late that there will not be time to build up. As the work continues you will need to add stories to No. 1, and equally to the pile of queenless brood and bees on the stand of No. 2. If there is danger of having the piles too high, you can start a second plant to working the same as Nos. 1 and 2.

Uniting in the Fall—Extracting Late.

1. I let my bees swarm once, then build the new colonies up strong at the expense of the old. If I have 100 colonies in the fall, and want only to winter 50, what would be best, to kill off the surplus colonies, or unite in hives that hold 11 Langstroth frames?

2. Can I extract honey as late as October?

MINNESOTA.

ANSWERS.—1. I should prefer to unite so as to have stroug colonies for winter.

2. Yes, but not without taking special pains to warm the combs before extracting. For 24 hours before extracting keep them in a hot room; all the better if hung up near the ceiling. No danger of having them too warm if you do not melt the comb.

Early Queen-Rearing in Pennsylvania.

I opened a 10-frame hive April 5 (as the bees were flying) to ascertain their condition. I found plenty of capped brood but no young larvæ, eggs or queen. But I found a queen-cell nearly ready to cap containing a large larva.

Now what I want to know is, whether I could safely and profitably get that colony in good condition for the honey season, which commenced about July 10 last year. Drones commenced flying May 23, last season.

I have been a bee-keeper since 1898 and have lost only 2 small colonies in box-hives.

Now I have 3 strong colonies besides the one mentioned, in 10-frame hives.

I do not care for any more colonies—all I want is a large amount of bees to store honey. The honey crop last year was poor; year before, good. PENNSYLVANIA.

ANSWER.—If I understand your question rightly, it is this: With drones flying May 23, will a queen reared from a cell nearly ready to seal April 5 be able to bring up a colony strong for the harvest by July 10? I should say she will not be likely to do so. The queen will issue from her cell by April 15 or sooner; May 23 she will be 38 days old, and the chances for her being fecundated at that age are not worth considering. Very likely some drones will be flying before that time, but hardly early enough, for she will probably fly out on her wedding-trip about a month before May 23. In general you will find that in the latitude of Pennsylvania a queen emerging as early as the middle of April will not be a good one. Perhaps your best plan is to destroy the young queen and get a laying queen from the South, or else break up the colony and divide its forces among the other colonies.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

SERVING UP "REPORTS."

And so John M. Davis wants the reports well-digested and intelligible—size never stated as, "as big as a piece of chalk," and distance never "a right smart piece," and the keystones never left out from the arches of testimony. He seems reasonable in his desire and request; and yet most certainly nobody is going to fill the great yearning chasm in his soul to any satisfactory degree. Brief, lucid statement of things when they write—why, you might as well ask Algebra and Greek of a great majority of intelligent people. An editor can't do more than he can do. He can't scold continually about rambling and unintelligibility without frightening off the reports altogether. I expect if we knew how carefully he carves, and how deftly he fixed things that *must* be fixed, we'd send up a vote of thanks, and refrain from asking anything more. Page 171.

THE "MUSLIN SANDWICH" COVER.

Doubtless a coat of paint with a thickness of muslin in the middle of it would make an excellent surface for some climates, providing you get *enough* paint both above and below, and also providing you keep putting it on as fast as the weather beats it off. Such a hive-roof would, I judge, fit best a climate of fierce sunshine and occasional violent rains. In a climate of little sunshine and endless drizzle there might be danger perchance that the surface would disintegrate. Page 173.

BARRELS FOR COMB AND EXTRACTED HONEY.

The chaps that can't stand barrels for honey, and the chaps that want all their honey in barrels, can be reconciled by the method of C. A. Deadman, page 173: Make your honey secure in tin, and then fill barrels with the tins—for security and convenience in handling. Guess he's right, that no big package ever was or ever will be devised that will handle as nicely as a barrel. If second-hand barrels at ten cents each can be had, the expense ought not to frighten one—in fact, the greater expense of crates is one of the items pro.

MELTING GRANULATED HONEY EXPEDITIOUSLY.

Pshaw! Didn't everybody know that? Then let them hear and heed that the melting of a mass of honey is very greatly expedited by frequent punchings and whirlings and subdivisions of it. Page 174.

CARNIOLANS FOR INCREASE—THEN ITALIANIZE.

Here seems to be a winning kink which Mr. Coveyou of the Michigans gave: Premising that you start with a few bees, and want to build up a big apiary, keep Carniolans till you get your number, and then Italianize. Page 180.

BLEACHING COMB HONEY.

On page 181 we have more about the unfamiliar subject of bleaching comb honey. Sulphur vapor and sunlight both. One bath of the former equals somewhat less than a week of the latter. But look out the sulphur doesn't "green" it; and look out the sun doesn't melt it. In Mr. Crane's experience 500 pounds out of 6,500 could not be completely bleached. Just one-thirteenth. I should call that encouraging success.

THE SEMI-MOVABLE FRAMES OF YEARS AGO.

Exactly so, Mr. Greiner, the semi-movable frames of long years ago, and centuries ago, would not have benefitted us any. We should never have heard of them had not an inventive mind of our own age put the thing in actual working shape—not merely old-time working shape but modern working shape. Should the next great inventor find out how to fly to an adjacent planet we should directly hear about Elijah and Enoch. Soon the recondite literature of the world would contribute dozens of Hiawathas and Laou-Tzes who had made such trips before.

Wonder what Solon thought he was after when he went to Egypt in the interests of bee-keepers, 500 B. C. Could hardly have hoped to copy the floating apiaries on the Nile. Might have sought an improved manipulation and a better kind of bee. Page 182.

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To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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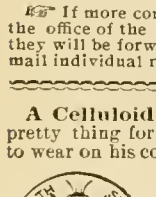
☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Abbott, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North.

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State price, kind and quantity.

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D. J. BLOCHER, Pearl City, Ill.

Ask for our price-list and testimonials.

As we are spending the winter in North Dakota, all our correspondence, whether social or business (until further notice) should be addressed,

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Weekly Budget.

THE APIARY OF ALBERT ROZELL, of Los Angeles Co., Calif., is shown in the picture on the first page. In it are over 150 colonies. Last year a car-load of honey was extracted in this apiary, and several hundred-weight of beeswax was obtained besides. The location of this apiary is a beautiful one, with the grand old mountains in the distance.

ALL FOREIGN SUBSCRIBERS will please remember that our queen or other special offers, whether in this journal or in others, do not apply to them. It really ought not to be necessary to say this, but occasionally some thoughtless foreigner desires to take advantage of our offers, and almost invariably forgets that there is extra postage for mailing from here to his home.

Please remember that *we* do not send queens to foreign countries—only the American Bee Journal, and that with the extra postage added to the yearly subscription price of $1.00.

A CITY GIRL'S BEE-STORY.—Miss Jean Stirling is a little Chicago girl, 11 years of age. Mrs. J. J. Glessner, a prominent society lady, who is also greatly interested in the subject, gave a lecture on bees, and afterward "Jean," who was one of the select audience, wrote out the following from memory, and also copied the bees and cells as shown in the illustration accompanying:

BEES.

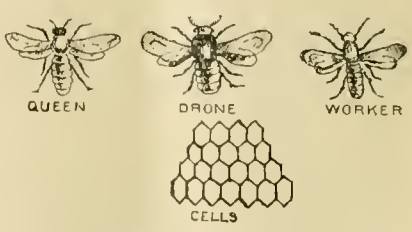
The bee, or, as the Indian calls it, the white man's fly, is a very interesting insect to study. There are three kinds of bees—the drones, the queens, and the workers. Each hive has only one queen, which governs the others, and also lays the eggs. The drones do no work, so, in the swarming season, the workers, which do all the work, kill them.

A bee can see a long distance. After gathering as much honey as she can carry, she rises in the air till she sees the hive, and flies the shortest way toward it. The word "bee-line" is derived from this fact.

A bee will not sting unless bothered. Drones have no sting, but queens and workers both have.

The poison of bees is so deadly that if they sting an insect it will die very soon. Sometimes animals and men also have been known to die when a swarm of bees have attacked them.

The queen-bee, after pairing with one of the males or drones, begins to lay eggs. Sometimes in one day she lays two or three thousand. The queen lays worker-eggs in one set of cells, the drone-eggs in another, and the queen-eggs in a third. After three days small



worms, called larvæ, come out of the eggs. In about five or six days—during which time the workers feed and care for them—they spin a cocoon. In 21 days the workers come out of

the cocoons, in 21 days the drones appear, and in 16 days the queen-bees come.

The old queen stings all the new queens to death if the hive does not happen to be full; but if the number of the inhabitants is large, the old queen and some workers start to find a new home.

The working bees supply the wax for the hives. In the back of their bodies there is a little pouch in which the wax increases, little by little. When this pouch is full, the wax sticks out in little scales. Then it is taken off and made into cells. These cells are six-sided, so as no space will be wasted.

When we eat honey it is difficult to realize how much patient labor is spent in making it.

JEAN STIRLING.

We think that is very well done for a city little girl who had just heard the story of the bees told, and then wrote it out as she remembered it. Of course, there are some little twists in it, but in the main it is fairly correct. Who knows but "Jean" may be a bee-keeper herself some day? Stranger things than that have happened.

We hope our little girl friends in the country will read Jean's story, and see if they could do as well at copying pictures of the three kinds of bees and the honey-cells.

GENERAL ITEMS

Peppermint Oil for Bee-Stings.

For the benefit of "Penn" (see page 218) and other bee-keepers who may not know of this remedy for bee-stings, I would say that I use peppermint oil; it will stop the pain and swelling instantly. MINNIE GREENMAN.

Van Buren Co., Mich., April 13.

Favors Ordinary Italians.

All my bees came through the winter safely. I have not lost a colony for several years, except some of the "yellow" order, which die with plenty of honey around them.

I believe for all-around workers nothing can beat the ordinary Italians.

EVAN E. EDWARDS.

Madison Co., Ind., April 15.

Spraying Fruit-Trees While in Bloom.

This subject, like most others, has two sides to it, or it is seen from different points of view, and different opinions are formed as to the effect it will have upon the pollen in the bloom and the crop of fruit. The American Bee Journal of November last quotes from the Farmers' Review on this subject:

"It has also been discovered that the poison is equally destructive to the life of the pollen, even when the amount of poison is only 9 to 10 parts to 10,000. Even 2 parts in 10,000 has been frequently found fatal to the pollen."

The writer quoted does not tell us what "the poison" was that was used in the spraying mixture that was so fatal to the fruit crop; and we must take it for granted that he refers to the usual "Bordeaux" spraying mixture. If so, then his conclusions are very different from the experience of some others.

I have always avoided spraying trees when in full bloom. I have heard that it would kill bees, and also injure the fruit-bloom. It looked reasonable that it would do both, and I did not believe that it would be of any special benefit at that time if the spraying was done just before and just after blooming. I accepted these conclusions without making any personal investigation. But there are others who believe that it is of great benefit to the fruit crop to spray the trees when in bloom; and, through the influence of bee-keepers laws have been passed in several

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STANDARD BRED QUEENS, none better than our BUCKEYE STRAIN of 3-BANDERS and MUTH'S STRAIN GOLDEN ITALIANS. 75 cents each; 6 for $4.00. Safe arrival guaranteed.

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THE A. I. ROOT COMPANY have a Branch Store at 10 Vine St., PHILADELPHIA, PA.,

Where they have direct steamboat connections with Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, North Carolina, South Carolina, Georgia and Florida, and low freight-rates.

As this is a main branch, order from any catalog or quotations given from Medina.

Also booking orders for healthy ITALIAN BEES shipped this month. Full colonies, 8 frames and queen, $6.00. Wholesale rates on application.

30 cents Cash paid for Beeswax. This is a good time to send in your Beeswax. We are paying 30 cents a pound—CASH—for best yellow, upon its receipt, or 32 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Queens you should Have

Does blood tell in other stock? Give your bees a chance. Stock used for breeding the queens offered—not from a sport, but my pick out of an apiary giving last season an average yield as follows:

Honey-Gathering.

102 lbs. extracted and 68 lbs. comb honey per colony besides increase and stores for winter.

Quality of Comb-Honey Produced.

"Man! It would dazzle you."—Wm. Envoy, Ontario Government Inspector of Apiaries.

Wintering Qualities.

Up to the present (January 30) I never found these bees to show the least indication of unrest—always perfectly quiet. They are wintering perfectly.—Frank T. Adams, Brantford, Canada.

General Commendation.

Out of those queens you sent me I have produced the best race or strain of bees I ever owned. Remember that is saying a lot, as I have tried every breed imported in this country. The bees winter better, build up, and stand cold chilly winds in spring better, and are more suitable than any bees I ever owned. For the season they gave me about double the honey the pure Italians did, and more increase. Glad you are going into the queen-business, and are going to join the ranks again. We are much in want of a few men like you. C. W. Post, Ex-president Ontario Bee-keepers' Association (owns 365 colonies).

S. T. Pettit, Canada's most successful comb-honey producer and bee-keeper, says: "The blood in my apiary is largely the progeny of queens sent by you, and they are grand bees."

Prices of Queens.

They are duty free to the United States. Tested, $2.00 each; $10.00 for 6; $18.00 per dozen. Untested until July 1, $1.25 each; $7.00 for 6; or $12.00 per dozen. Same after July 1st, $1.00 each; $5.50 for 6; or $10.00 per dozen. Larger quantities, prices on application. Postage stamps taken for fractions of a dollar. To be fair to every one, no selected tested queens are offered. Every one has the same chance. The above queens are bred from a careful selection of Italians and Carniolans. Pure Italian and Carniolan queens same price. Price of full colonies on application. Orders booked as received, and filled as quickly as possible. Order early.

Address, **R. F. HOLTERMANN,**
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SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.
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Is now selling **EGGS** for hatching from Standard Bred, High-Scoring stock. Barred Plymouth Rocks, Black Langshans, and Rose-Comb Brown Leghorns. Eggs, $1.50 per 15; $2.50 per 30. Stock in season.

EUGENE HAMBAUGH,
16A4t MT. STERLING, ILL.
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States and in the Province of Ontario to prevent them from spraying while trees are in bloom. There are those of an investigating mind who believe in the old adage, "Try all things, and hold fast to what is good," who are not willing to take hear-say evidence without personal investigation, especially in matters pertaining to their own business and interest. Of this class I have a friend living on a neighboring island, over in the State of Ohio, who has almost a national reputation as a successful fruit-grower. There are no bees on that island to be killed, and he was willing to run the risk of losing the fruit on a few trees, or even the trees themselves, in the interest of the knowledge gained; so he made a test of the effect of spraying some trees while in full bloom, and comparing the result with trees sprayed after blooming. On July 27, 1901, he wrote to me as follows:

"I experimented with a half-dozen peach-trees just in full bloom, with Bordeaux mixture—4 pounds sulphate of copper, 5 pounds lime, and 4 ounces of green arsenoid, to 50 gallons of water. I thoroughly saturated the trees, every portion, until the mixture dropped from them. I saw no ill effect. The trees so treated had more fruit on them than any other six trees adjoining them that were not sprayed until after blooming. One seedling was so full that I had to take off more than half the fruit."

And there were no bees there to fertilize the bloom, and it was too early in the season for other insects to be out; if any had chanced to have been there such a dose would most likely have killed them

It will be noted that "green arsenoid"—a virulent poison—was added to the usual formula for Bordeaux mixture, and that the writer simply states facts, and does not claim that the spraying in bloom was the cause of there being no fruit on them; he leaves us to our own conclusions. But such evidence ought to go a long way to establish the truth that the "poison" does not injure the pollen, or spraying in bloom prevent a crop of fruit. This witness is thoroughly reliable, and one of the most intelligent, up-to-date, successful fruit-growers in this country. It may require further investigation and experiments to settle this matter fully.

Ontario, Canada. THADDEUS SMITH.

[All the same, it is good advice *not* to spray while in bloom. Good crops of fruit have been secured when no spraying at all had done.—EDITOR.]

Only a 2 Percent Loss.

Bees have wintered with a 2 percent loss of colonies, and perhaps 10 percent of the remainder will require careful handling to build them up in shape for the white clover honey-flow. MORLEY PETTIT.

Ontario, Canada, April 14.

Plenty of Rain.

Bees are doing well here. We have had plenty of rain to insure a good honey crop. My bees are working on the fruit-bloom and gathering some honey from filaree. White sage will soon blossom.

This is my second year with bees. I built up my apiary last year, and have now 52 colonies, spring count.

I have the bee-fever pretty strong. I am running for both extracted and comb honey.

EUGENE DUMAS.

San Bernardino Co., Calif., April 10.

Report for 1901.

I have kept bees for about 30 years, on a 100-acre farm. I never had a bee-book or a bee-paper, the American Bee Journal being the first one I have taken.

I have been very happy in bee-keeping. My apiary now consists of 49 colonies. I had 30 colonies last year, spring count, from which I secured 8500 pounds of extracted honey; half of the lot I sold for 7 cents per pound, and the rest for 8 cents, without any cans. I in-

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

Headquarters
—FOR—
Beekeepers Supplies
Root's Goods at Root's Factory Prices

Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand.
The freights from Cincinnati are the lowest.
Prompt service is what I practice. Satisfaction guaranteed.
Catalog mailed free—send for same.
The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.
You will save money by buying from me.

Orders taken for Queens—GOLDEN ITALIANS, RED CLOVER QUEENS, and CARNIOLANS. For prices I refer you to my catalog.

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Successor to Chas. F. Muth & Son and A. Muth.
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Buy the fence that has stood the test of time.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
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Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. 200 tested reared last season ready to-day Contracts with dealers a specialty. Discount after July 1st. Send for circular.

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14A26t SPRING HILL, TENN.
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$300,000,000.00 A YEAR and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. **Draper Publishing Co., Chicago, Ill.**
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Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

O. H. HYATT,
13Atf SHENANDOAH, Page Co., IOWA.
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creased to 50 colonies. I have always wintered my bees in the cellar, with a temperature from 48 to 50 degrees. I put them in the cellar in good condition and plenty of winter stores. I have never lost a colony during the winter.

We had a fine day yesterday, and put the bees out, but to-day we had a big snow-storm, and put the bees into the cellar again.

THEODORE STEGER.

Washington Co., Wis., April 7.

Bees Wintered Well.

I have been interested in the reports published in the American Bee Journal. I put 48 colonies in last fall, and took out 48 all right this spring. One year ago I took out 25 colonies. I kept them from swarming all I could by cutting out drone-comb, or cutting the heads off. I fed two sacks of sugar in April and May, and got the bees ready for business when clover came into bloom. I got 2150 pounds, mostly comb honey, which I sold at home at 13 cents per pound.

I had no ventilation to the bee-cellar, only as I might open the door from the rest of the cellar where I kept the vegetables, but I found the bees got quite uneasy, and I took them out a week earlier than usual this year.

WM. CLEARY.

Kossuth Co., Iowa, April 7.

CONVENTION NOTICE.

Illinois.—The Eastern part of the Northern Illinois Bee-Keepers' Association will hold their spring meeting at the residence of O. J. Cummings, 2½ miles northeast of Rockford, Ill., Tuesday, May 20, 1902. All interested in bees are invited to attend. B. KENNEDY, Sec.

Light as a Feather.

This is a grand motto for the cook and the baking powder man, but Rural Mail Boxes are a different proposition. You don't want them too easily digested. Father Time makes short work of the light ones, but our "Uncle Sam's Favorite" is too heavy for him. However, "his loss is our gain." See?

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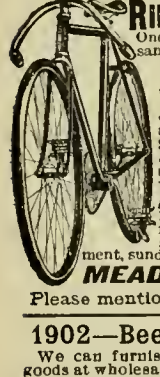
Queens Either 3 or 5 Banded, from the best strains in this country. Untested, 85 cents each; $9. per dozen. Tested, $1.25 each.

I make a specialty of Queen-Rearing, and fill orders promptly. Remit by Post-office Money order to

DANIEL WURTH,
CARYVILLE, TENN.
16E2t (I have moved from Coal Creek.)



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One in each town to ride and exhibit a sample 1902 Bicycle.

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We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

FOR SALE.

40 colonies of Hybrid Bees, all in Dovetailed Hives, on 8 self spacing Hoffman Frames. One to 10 colonies, $3.00 per colony; 10 or more, $2.50 per colony. One super goes with each hive. All bees guaranteed to arrive safely by express. Address,

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$5 TO START YOU IN BUSINESS
We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.
DRAPER PUBLISHING CO., Chicago, Ills.
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Bees Wanted.

Any kind of Hive.
L. C. MILLER, NEWTON CENTER, MASS.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.25 to

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FOR HIS
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Liberal Discounts to the Trade.

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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BUCKEYE INCUBATOR CO., SPRINGFIELD, OHIO.
INCUBATORS 30 DAYS TRIAL $5.
HATCH EVERY GOOD EGG OR DON'T KEEP IT. SEND 2 CENTS FOR NO. 53 CATALOG AND VALUABLE POINTS.
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Latter Day Merchandising has many houses in the mail order business, "selling direct to the consumer," and "saving agent's profits." A very large percent of these are themselves taking the agent's profits, having themselves received their goods at second and third hands. Among this smaller class, who in truth and in fact manufacture their own goods and sell directly from the factory to the consumer, is the famous old Elkhart Carriage and Harness Mfg. Co., of Elkhart, Ind. These people handle only goods of their own manufacture, and they have no jobbers, agents, or middlemen. Everything you purchase from them comes directly from their factories. There is no doubt about agent's commissions being avoided in their case. The mammoth proportion to which their business has grown proves that the people realize that there is a great saving to them in dealing direct with this firm. Every kind of light vehicle and harness is in their line. They publish a large illustrated catalog which our readers should have. They will be pleased to mail it to any one writing for it. Please mention the American Bee Journal when asking for the catalog.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
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White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage. If wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Apr. 18.—The season in which comb honey sells prior to the new crop is now practically at an end; therefore prices are more or less irregular, as some sections in a case will be grained more or less and others free. The best lots of basswood and clover sell at 14@15c; other kinds of white at 10@13c; ambers are not in heavy supply and sell at 9@12c. Extracted is dull at 5@6½c for white, and 5@6c for amber, depending upon flavor and other qualities. Beeswax scarce at 32c. R. A. BURNETT & CO.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.

THE FRED W. MUTH CO.

ALBANY, N. Y., Feb. 21.—Our market has not been so empty of comb honey in a long time. Fancy white comb, 15@16c; No. 1, 15c; dark and buckwheat, 13@14c. Extracted, buckwheat, 6c. Beeswax, 30c. H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c: Florida honey, in barrels, 6@6½c. BLAKE, SCOTT & LEE.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c: Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

CINCINNATI, Apr. 11.—Stock of comb honey here is larger than it ought to be at this time of the year, and this is why it is offered for very low figures. Water-white is sold at 14@14½c and hard to obtain; for extra fancy, 15c.

Extracted finds a steady sale, and amber is sold in barrel lots for 5@5½c; water-white altalfa sells from 6@6½c, and white clover brings from 6½@7c. Beeswax scarce at 30c.

C. H. W. WEBER.

NEW YORK, Apr. 7.—Comb honey, last year's crop, practically cleaned up, but as we wrote a little while ago we had received new crop from Cuba, and are now receiving new crop from the South. Demand is fair at 14c for fancy white, 13c for No.1, 12c for No.2, and 10@11c for amber.

Extracted: The market is decidedly dull. Very little demand, with large stocks on hand, some of which no doubt will have to be carried over, and indications point to a further decline in prices. We quote: White, 6c; light amber, 5½c; amber, 5c; Southern, 52½@58c per gallon, according to quality. Even these prices are shaded in car lots. Beeswax, scarce and firm at 29@30c. HILDRETH & SEGELKEN.

BUFFALO, March 28.—Buffalo is very quiet on honey, except very low grades at very low prices. We quote extra fancy, 4c; No. 1, 12@13c; other grades, 8@10c. Extracted, 5@6c. Beeswax scarce; fancy, 28@30c; dark, 22@25c.

BATTERSON & CO.

SAN FRANCISCO, Apr. 9.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Advices from the interior of this State indicate a big yield of honey this year and an early season. While quotable values remain in about the same position as last noted, the market cannot be termed firm. Buyers are operating lightly, anticipating easier values when new crop begins to arrive freely.

WANTED. **EXTRACTED HONEY**—either large or small lots; parties having same to offer, send samples, and best prices delivered at Cincinnati, Ohio. We pay cash on delivery. THE FRED W. MUTH CO.,
10Atf Front and Walnut Sts., CINCINNATI, O.
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BOYS WE WANT WORKERS
Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

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OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

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JAMESTOWN, N. Y.

W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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Standard Belgian Hare Book!

BY M. D. CAPPS.

THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

Price, in handsome paper cover, 25 cents, postpaid; or with the American Bee Journal one year—both for only $1.10.

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144 & 146 Erie Street, - CHICAGO, ILL.

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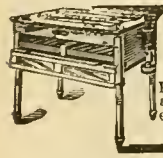

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Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
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Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

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Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

Bee-Keepers' Supplies OF ALL KINDS *****

Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

Langstroth on the Honey-Bee—Revised,

The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....

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Hamilton, Hancock Co., Ill.

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THE DANZENBAKER HIVE

The best comb-honey hive on the market may be obtained of The A. I. Root Co., of Medina, Ohio; at any of their branch houses, and many of their local and jobbing agencies. Send to the address nearest you, and save freight, and get quick delivery.

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The A. I. Root Co., San Ignacio 17. Havana, Cuba. F. H. de Beche, Manager.

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C. H. W. Weber, - - - - Cincinnati, Ohio
M. H. Hunt & Son, - - - Bell Branch, Mich.
Walter S. Pouder, - - Indianapolis, Ind.
Jos. Nysewander, - - - Des Moines, Iowa.
Jno. Nebel & Son, High Hill, Montgomery Co., Mo.
Prothero & Arnold, Du Bois, Clearfield Co., Penn.
Carl F. Buck, - - Augusta, Butler Co., Kan.
W. W. Cary & Son, - - - Lyonsville, Mass.
The L. A. Watkins Mdse. Co., - Denver, Colo.

Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.
THE A. I. ROOT COMPANY, Medina, Ohio.

GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market.

J. B. MASON,
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.

M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.

THE A. I. ROOT CO.,
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

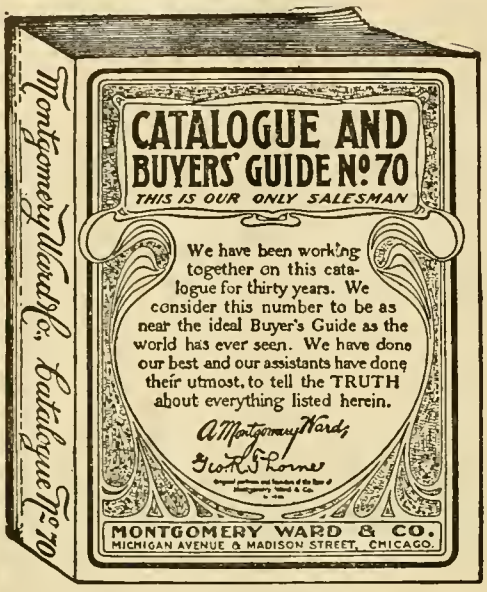
CHICAGO, ILL., MAY 1, 1902.

FORTY-SECOND YEAR No. 18.

WEEKLY

APIARY OF A. BOOMER, OF WATERLOO CO., ONT., CANADA.
—(See page 283.)

Know What Your Dealer Pays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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., MAY 1, 1902. No. 18.

Editorial.

New York Anti-Bogus-Honey Law.—Such a law has recently been enacted, and is a credit to that great State. It will be worth much to the whole country to have the adulteration of honey stopped in New York City. Chicago used to be headquarters for such work, but since the Pure Food Commission came into existence, there has been precious little adulterated honey put on the open market here, and most of that has been labeled so that the purchaser could see that he was not getting the pure article.

Here is a copy of the parts of the New York law as amended:

AN ACT to amend the agricultural law relative to prevention of disease among bees, and to add two new sections thereto relative to honey, to be known as sections eighty-a and eighty-b.

Section 2.—Said chapter, three hundred and thirty-eight, is hereby amended by inserting therein, after section eighty thereof, two new sections, to be known as sections eighty-a and eighty-b, and to read respectively as follows:

Section 80-a.—Defining honey.—The terms "honey," "liquid or extracted honey," "strained honey," or "pure honey," as used in this act, shall mean the nectar of flowers that has been transformed by, and is the natural product of the honey-bee, taken from the honey-comb and marketed in a liquid, candied, or granulated condition.

Section 80-b.—Relative to selling a commodity in imitation or semblance of honey.—No person or persons shall sell, keep for sale, expose or offer for sale, any article or product in imitation or semblance of honey branded as "honey," "liquid or extracted honey," "strained honey," or "pure honey," which is not pure honey. No person or persons, firm, association, company, or corporation shall manufacture, sell, expose, or offer for sale any compound or mixture branded or labeled as and for honey which shall be made up of honey mixed with any other substance or ingredient. There may be printed on the package containing such compound or mixture a statement giving the ingredients of which it is made; if honey is one of such ingredients, it shall be so stated in the same size type as are the other ingredients; but it shall not be sold, exposed for sale, or offered for sale as honey; nor shall such compound or mixture be branded or labeled with the word "honey" in any form other than as herein provided; nor shall any product in semblance of honey, whether a mixture or not, be sold, exposed, or offered for sale as honey, or branded or labeled with the word "honey," unless such article is pure honey.

ABSTRACT FROM THE AGRICULTURAL LAW RELATIVE TO PENALTIES.

Section 37.—Every person violating any of the provisions of the agricultural law shall forfeit to the people of the State of New York the sum of not less than fifty dollars, nor more than one hundred dollars, for the first violation, and not less than one hundred dollars for the second and each subsequent violation. When such violation consists of the manufacture or production of any prohibited article, each day during which or any part of which such manufacture or production is carried on or continued, shall be deemed a separate violation of the provisions of this article. When the violation consists of the sale, or the offering or exposing for sale, or exchange of any prohibited article or substance, the sale of each one of several packages shall constitute a separate violation; and each day on which any article or substitute is offered or exposed for sale or exchange shall constitute a separate violation of this article. When the use of any such article or substance is prohibited, each day during which or any part of which said article or substance is so used or furnished for use, shall constitute a separate violation, and the furnishing of the same for use to each person to whom the same may be furnished shall constitute a separate violation.

Section 2.—This act shall take effect immediately.

We hope other States will copy the New York law, and thus get into line for pure honey. Nothing would so help the sale and table consumption of genuine honey as stringent laws against the sale of the adulterated article, and their rigid enforcement.

Honey at Fairs.—Mr. Smith reports in the Canadian Bee Journal that several years ago at the county fair he made a display of honey in sections and extracted, both clover and buckwheat, some clear, some candied, several hundred pounds altogether. He says:

Well, the result rather astonished me. I was overwhelmed with questions about honey. "How did I get it in the little boxes?" "How was it some was so light and clear, another kind so dark in color?" "What made it candy so?" etc. People who had never seen or tasted honey before, stopped to admire and express a desire to purchase some; and the result was that we sold all our cull sections by cutting them into 5-cent pieces, that were eaten on the spot, instead of candy, and many who had once tasted honey purchased some to take home with them. I had a crowd around the exhibit the whole time. The honey was all sold, and orders were taken to be filled later.

This proved to be the best advertisement we ever had, and was the means of introducing honey into many homes where it was found to be so much more healthful and economical than many of the preserves in common use.

Bad Bees they have up in Canada. A lawsuit is reported in the Canadian Bee Journal, a Mr. Brock suing for damage done by Mr. Patterson's bees. Some who have kept bees close by their homes without any misapprehension may be surprised to read how very bad Mr. Patterson's bees were. Listen:

In stating his case Mr. Brock swore that he owned a house and a half-acre lot west of Mr. R. L. Patterson, who also owned a house and a half-acre lot, and kept about 120 colonies of bees. Mr. Patterson's bees had been very troublesome to himself and family. His mother and sister were afraid to go outside of the house on account of them, and especially at swarming-time. He could not cultivate his lot, and had to give up fruit-raising, not only on account of their stinging the pickers, but through their sucking the juices of the fruit and destroying the berries. He believed that he could not sell the property if he wanted to on account of Mr. Patterson's bees. His horse had been stung, and injured through fear of the bees. The family washing could not be hung out to dry without being spotted by their excrement. The roof of his house was also defiled, and when the rains came this matter was washed off into the cistern, rendering the water filthy and unfit for use. His wood-pile, too, was affected; he could not get any one to saw his wood, and sometimes the bees would crawl on the pieces and be carried into the house, where they would sting and annoy.

Mr. Brock's mother and brother and sisters, and a number of others, mostly relatives, witnessed for the plaintiff. Mrs. Brock swore having had to wash the clothes three times. One of the sisters declared she had to leave home on account of the bees.

The strange thing is, that Mr. Brock should ask only $60 for all that harm, and that the judge should be so hard-hearted as to find no cause for action.

Size of Honey-Cans.—The 60-pound tin can is a favorite size. But G. A. Deadman says in the Canadian Bee Journal:

It may surprise some when I say that I prefer a 10-pound slip-covered pail to any receptacle I have yet seen for honey after it is granulated. In the future, or until further notice, any honey I have no market in view for goes into 10-pound pails. If an order comes for a 60-pound tin I can send six of these with the assurance that the customer will be pleased rather than otherwise. They are so much nicer to handle, and more useful when empty. In sending these you will be doing a favor rather than otherwise. You can fill an order for 60-pound tins with 10-pound pails, but you can very seldom send a 60-pound tin in the place of six 10-pound pails. A 10-pound pail of honey almost any family can buy, although where honey is expensive I find 5-pound pails are in demand.

The Buffalo Convention Report is issued in pamphlet form, size 6x8½ inches, 80 pages and cover. Besides a full report of the proceedings of the 32d convention of the National Bee-Keepers' Association, held in Buffalo, N. Y., Sept. 10, 11 and 12, 1901, it contains fine half-tone portraits of all the officers and directors of the Association; also the Constitution, a list of the membership up to the end of 1901, and the two latest bee-songs—"The Hum of the Bees in the Apple-Tree Bloom" and "Buckwheat Cakes and Honey." Price, postpaid, 25 cents, or with the American Journal one year—both for $1.10. Every bee-keeper ought to have a copy of this Report. We believe it is the finest ever gotten out for the Association.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 260.)

FOUL BROOD—HOW TO GET RID OF IT.

"How shall we get rid of foul brood?"

Dr. Miller—Take the McEvoy treatment.

Mr. Clarke—Get a State inspector. In other words, get rid of foul brood.

Mr. Horstmann—There is only one way to get rid of foul brood—clean it out. I have had experience with foul brood for three years. I didn't know my bees had it until I got a report from Dr. Howard stating what it was. In the summer-time, during a good flow, drive the bees out on the starters of foundation—(that's the McEvoy plan). After the brood hatches out take the bees off the honey and save it, and cut the other combs out and burn frames and all. Scrape the hives out clean, and use them over again. That's the way I did, and I believe I have been successful.

Mr. Moore—Have you any foul brood now?

Mr. Horstmann—I cleaned out one hive, I think it was Saturday. There was foul brood. The first of September I noticed that there was some foul brood, and I took the bees and drove them right off on frames; and this is an experiment I am trying for next spring. The idea is to have the bees consume all the foul honey they have this winter.

Mr. Marvin—I suppose there are a great many here that knew my brother by reputation. He kept bees for a great many years, and his bees had foul brood.

Dr. Miller—That was James Marvin, whom we all looked up to as an authority along with Mr. Baldridge.

Mr. Marvin—He was an authority. I have bees myself, and I want to tell you all, for your benefit as well as those who are in hearing, if you have any foul brood, why, get rid of it. Don't try to monkey with it, but just burn it right up and get rid of it.

Mr. Moore—How many have used the McEvoy treatment and gotten clear out by that method?

Mr. Horstmann—How long a time will he allow? How much time are you going to give us to try the experiment, a year, or two years? You can hardly report on one year. I cleaned some out last year and I took them out again this year. I don't know whether it was the cause of the treatment or whether the disease was spread by robbing. I think it was caused this spring by robbing. I had a colony that was weak, and had the hive-entrance closed. It grew very cold and they knocked the entrance block off and the bees pounced in there and cleaned it out. I believe that is what spread my foul brood. I worked on the McEvoy plan but I won't be able to report on that until next fall.

Mr. Baldridge—The McEvoy plan will cure foul brood; there is no doubt about it. There is another plan, but I will not detail that. You need not expect, if you get rid of foul brood, that you will keep rid of it. There is too much in the neighborhood. I had it introduced in my yard several times from the bees robbing other people's bees. My bees have foul brood now. I can get rid of it, but it won't stay rid of it; but it will be introduced from other yards if it is not entirely eradicated from the section of the country.

Mr. Marvin—I believe, if you get rid of it—the trouble is you don't get rid of it. There is something about the hives, the honey, the comb and the bees. You don't get rid of it. Now I tell you, there is no other way but to burn it. My brother was a thorough-going bee-keeper. Dr. Miller knows something about it. You cannot get rid of foul brood unless you exterminate. You won't get rid of it from neighbors' bees. If you have it at home, get rid of it. My brother tried everything he heard of. He had 667 colonies of bees. He lost all but three.

Dr. Miller—Has he three left yet?

Mr. Marvin—About three, I think, or half a dozen, and that was down at St. Charles. They weren't up with his others; if they had been, he wouldn't have any. Let some one who has cured foul brood, get up.

Mr. Moore—Have you cured foul brood, Mr. Clarke?

Mr. Clarke—I have not. My bees have had a touch of it every spring, and I have a neighbor next door who labored with it for about two years. Mr. Marvin spoke of 667 colonies. I can imagine how it would spread to every hive if the combs were burnt, and the work was not done properly, even in half a dozen hives. I think it an entirely wrong idea to burn up the combs, because, unless a person goes to work and covers up entirely—we tried it—and the fire will not, and cannot, consume the honey and wax, the honey will run down and you move away the ashes and find honey underneath, and when moved away the bees will get in there and take it off into all the hives. But when you say that you can keep clear of foul brood by cleaning it out of your own apiary when you have it within a mile of you, I would like to see the man that tells me he has it but can do it. I don't believe there is an apiary that has foul brood within a mile but what I can find it in the cells. It may not form this year. The honey that is ripened in the fall is in the cell; you don't get any from the pussy-willow, but the bees will naturally go to work for brood. Those cells may lie in the frames and they may not develop, but as sure as you have a month of May like last year, if your bees have foul brood, by the middle of June you will have it developed so that you will have to throw out the whole colony. If you have foul brood thoroughly developed there is no mistaking it, even a single cell of it. You can go to the hive and take everything out. If you go in the evening, shake all your bees off into the hive and bury the frames—put them down the same as you would in the bottom of a well—you need not be bothered with foul brood again, if you do it that way. Burning I am dead against. There is not one in fifty I have known to do that way that is without foul brood.

Dr. Miller—Will Mr. Clarke tell us what he would do?

Mr. Clarke—I would bury every frame. The amount of wax wouldn't be worth the trouble and the risk you run by the bees taking the honey. I am dead against burning.

Mr. Horstmann—I have burned the frames and I guarantee there wasn't a bit of wax left. I have carried it into the basement and was sure there wasn't a bee near, then I saved what wax I could and also honey. The honey was all right, and I have taken all the frames and put them into a furnace, and they make the nicest kind of fire, and saved coal for me. Take it out in the country where you can get lots of leaves, and I know you can burn up every bit of it—not a germ left. You can take the old wax and let it dry some place where the bees won't get it, and I know you can get rid of it by fire a great deal better than burying it. It may be dug up. I don't know but what the disease may spread three or four years afterwards. As to burning up the frames, bees and all, that is away behind the times. I think we have bee-keepers in this country that can exterminate foul brood without burning up the bees and all. I don't like the idea of burning bees, and I wouldn't do it. I think I have about as good a way as you can get.

Dr. Miller—Is there any city ordinance against combining the two, digging a pit deep enough to bury, and then burning it and burying the ashes? [Laughter].

Mr. Dadant—I have had no experience with foul brood. I never have seen a case even away from home, but I wish to say that I buy beeswax to make foundation, as you know, and in that way we certainly have many cases of foul brood; and our bees have access to the building in which we keep our crude material, and our bees get to all the beeswax that comes to us. If there is any honey about it they get it. And, remember, we have been doing that for 25 or 30 years, and I have never seen a case of foul brood. The scientists tell us that a temperature of 212 degrees will destroy any germ of life. Germs of foul brood, bacillus alvei, are living germs, and just boiling water will destroy them. Scientists tell us that, and I am satisfied that it is so. If it wasn't so I would have seen foul brood before this. As to the burning of bees, some of you say if you burn the hives you will destroy it, but perhaps some of the other hives will have it. Do you realize that foul brood is a disease? We had plagues—Asiatic cholera and small-pox—and there was a time when they put persons having either one of these diseases in the pesthouse and left them there to die. No one would go near them. Did that cure it? No. It was only when men devoted themselves to discovering a remedy, and in an assembly like this we don't want to advise burning it. Find a remedy. When we have a case of small-pox we vaccinate all who are around. You don't want to apply the treatment only to the one colony, apply it to every colony. When you have one, you don't know how many side by side may have the germs, just a small germ that may not develop for two or three months. If you treat not only the colony th

is diseased, then you can tell, as I have done, that you have cured it. But you tell us to destroy it by burning it. That is equal to the pesthouse. Did that cure it? Do you know how many cities were destroyed? Even to day when we are careless of the small-pox it spreads in our town. We vaccinate every one. We want to discover a cure, and not apply it to one but to every colony, and if you are careful even to the neighbor's bees, and if you find it will cure it, as you must sooner or later, then you have achieved something. Here is a gentleman that out of 667 colonies saved three. Might just as well burn them all at first, then.

Mr. Marvin—He was trying other experiments.

SHIPPING FOUL-BROODY COLONIES INTO ILLINOIS.

"Can a bee-keeper be prevented from bringing foul-broody colonies into Illinois?"

Mr. Moore—I think a great many things on this foul-brood question, but I don't suppose I can express them in a way that will be particularly interesting. About two years ago I found I had foul brood in my apiary. I had no experience with it whatever, but I began to read up on that question and I struggled along in my weak, imperfect way attempting to get rid of the disease. I studied up the McEvoy treatment and tried to carry it out. I failed in this. Last summer, in my apiary—I had about 30 colonies at that time—I repeatedly took all the bees off the honey and frames and gave them new frames, and gave them foundation, burning the whole thing up bodily, except the hive and bees. The result was I lost 20 colonies and out of the eleven I now have I am satisfied four or five are still diseased. I would have no objection to burning them up if I could get rid of it. I had any quantity of kindling, so that where I burnt up a pound of foul brood I had ten pounds of kindling to burn it with, and I got the fire good and burning, and I put it on and am satisfied that everything was burned up. Dig up the ashes and bury them in the ground about a foot, and you have clinched the thing. I think there is no way for the ordinary, every-day bee-keeper to get rid of it without burning it up. The McEvoy treatment may be all right for Dr. Miller, who can spend days and weeks at it, but for ordinary, everyday bee-keepers it is a failure. To burn up everything that comes in touch with it, even the hives, I am satisfied is the way to do it, excepting of the honey, brood and frames. Burn it up, then you have a fair, fighting chance. Mr. Marvin says you don't get foul brood from the outside, and you would better get rid of it in your own apiary when it is there. My experience is from 33 colonies down to 11, and nearly everything I have now is infected with foul brood, and I have been experimenting long with it. Perhaps if I had spent all my time at that, and quit my other business, I would have gotten rid of it, but in my own weak way I have tried to get rid of it and I have failed absolutely. The first thing, we ought to have a good, drastic law in this State. No use in going into details. You all have read about the laws other States have. Well, that covers the thing completely. A foul-brood inspector goes with them, and burns and destroys if necessary. I take it that there are 12 apiaries in this (Cook) county that are infected now with foul brood, and there is a chance to infect the whole State with foul brood.

Mr. Clarke—Can Mr. Moore tell us what time of the year it was when his colonies were infected?

Mr. Moore—It was mostly last spring, from April to July.

Mr. Clarke—Was it in April or May?

Mr. Moore—Probably May, June and July.

Mr. Clarke—You did your work in the worst possible time you could. This not only from my experience but from every bee-keeper's around, as there were very few days that you could open the hive and not have robbers come in, and you would get it into every other colony you had in the yard.

Mr. Moore—It is very easy to talk about what is the best thing to do. It is very easy to read McEvoy, but you know how hard it is to go home and carry out to the letter things that we believe are right to do. We won't do it. The moral is, to take the most drastic possible method with your case of foul brood. Do the thing you are absolutely certain the foul brood won't get away from, and I say there is nothing else but the consuming fire that will break up foul brood.

A Member—If this method is proceeded in, and a drastic law enacted by which all foul brood is destroyed beyond all recognition, where is there ever going to be any chance to experiment?

Mr. Marvin—I think we have had too much experimenting. When men can't get up here and tell us—among all the bee-keepers, and women, too—how to cure it, and cure it effectually, I think it about time to exterminate it, and I think that is the cheapest way. We don't want to spend money for nothing. Go right to work and exterminate it right at the start when we find we have it, and then start in again buying new comb; I think this is the cheapest in the long run.

Mr. Clarke—I have tried the McEvoy treatment, and I have never known it to fail if it is done properly.

Mr. Moore—Your bees now have foul brood?

Mr. Moore—I am likely to have it in the spring because I have it around me. Directly you have foul brood in the colony it will show it.

Mr. Dadant—From the outside?

Mr. Clarke—From its work.

Mr. Horstmann—When I first noticed foul brood I had five colonies, and I have increased to 27. I had 1,700 pounds of honey the past season and cleaned out, I think, five or seven colonies. I worked on the McEvoy plan, and got over 90 pounds of honey from the colony I treated in June. If that doesn't show up well, I will give up.

Dr. Miller—There are some of us who haven't any foul brood in our apiaries. We will all take foul brood home with us. I move we change the subject.

"What is the best way to prevent foul brood, and keep it out?"

Mr. Dunn—That's what we all want to know.

Mr. Stanley—I have tried it. I think it can be done without burning the bees and destroying them. I will explain my way. It is to re-queen the colony, and about ten days afterwards shake the bees off the combs on the starters, and boil the combs up and use for wax, and the honey can be used after boiling. In 1884 we had over 200 colonies, and treated about 20 that way, and we had a barrel of honey and had no bad results.

Dr. Miller—That's the McEvoy treatment, but you had the additional—

Mr. Stanley—Then I re-queen the colony.

Mr. Horstmann—I would advise no one to handle foul-broody colonies unless there is a good honey-flow on. Then you will have no robbing; but be sure that there is a good honey-flow on.

A Member—Did anybody ever know foul brood to spread during a good season? It is during a poor season—that's when it spreads.

Mr. Walker—We don't have poor seasons here. There are several quite important particulars that he might tell us about. As to whether he handles them in broad daylight or was careful to handle them just at dark, and careful to see that no bees got into some adjoining colonies, as they are put off. I have had experience with foul brood for at least 20 years. I fancy Mr. Moore asking me why I am not rid of it now. I am rid of it now; and I will say that I have had more or less of it nearly every day from 20 years ago up to now, but it is because I have had to ship so many bees from different places. I have found out that foul brood, when you suppose you are rid of it you have to go at it again to get rid of it. It has been eternal vigilance in my case. McEvoy's treatment I have adopted, and it is all-sufficient. Some have tried a few cases, one season or two, and sit in judgment on Mr. McEvoy, to find out whether his treatment is proper or not. By way of suggestion, I think we get honey from all over creation, and then transport it all over, and expect to get rid of foul brood, and keep rid of it.

Pres. York—"Can a bee-keeper be prevented from bringing foul-broody colonies into Illinois?" Does any one know?

Dr. Miller—I don't believe there is a law to prevent it.

Pres. York—"Is the queen responsible for foul brood?" How many think she is—raise the hand. Two.

Pres. York—"With foul brood one-half to three-fourths of a mile from you, is it possible to keep from it in your own apiary?" How many think it is?"

Dr. Miller—It depends upon what kind of neighbors you have to keep bees.

A Member—Was foul brood ever known to exist in bees in a wild state?

Dr. Miller—Yes.

(To be continued.)

The Texas State Convention.

The 24th annual session of the Texas State Bee-Keepers Association was held in Greenville, April 2, 1902. Vice-President J. M. Hagood called the meeting to order, and prayer was offered by the chaplain. About 25 bee-men were present, representing nearly 3,000 colonies of bees, and an average of 20 pounds of boney per colony the past year, which year was the hardest on bee-culture in the experience of bee-keepers.

The convention was in session two days, and topics of great interest to all were discussed.

The venerable president, W. R. Graham, was too feeble to be present and preside, very much to the regret of all.

Messrs. Hagood, Morgan and Cooper were elected delegates to the Farmer's Congress to be held at College Station next July. W. R. Graham was re-elected president; J. M. Hagood, vice-president; and F. N. Hunter, secretary.

Contributed Articles.

Don't Neglect the Bees—Other Good Advice.

BY MRS. L. C. AXTELL.

I BELIEVE the time is not far distant when the bees will do well again. We have had so many dry years here in the West, and the people are getting a good deal discouraged with trying to make bee-keeping pay, and so each year the poor bees are left more and more to live or die, just as it happens; and often they die for want of a little care.

Some of us will awaken one of these days to find a fine honey crop, and no bees, or but a few, to gather it.

"The platter kept right side up" should be our motto, and when the good honey season comes again, as it surely will—or everything else will dry up and all farming cease to pay—then, I say, when the good seasons come again, bees will increase and again fill their hives with honey as if by magic—if the bee-keeper has his bees in good condition. But if the bees have been neglected there will be no bees to gather honey, and all will be wasted, and the bee-keeper will take up the lamentation that "bees don't pay," when it will be his own fault, and not the fault of the bees.

BEE-KEEPING A SPECIALITY.

I am not sure but it pays to make bee-keeping a specialty. What is there we do make a success of if we do not make a speciality of it? I am sure it is not farming. Being merchants, or school-teachers, or any other business—we need to put our whole soul into any work we wish to make a success of, and push, and push, and push.

This is why some succeed and others fail. They simply play at work, and at every little failure will give it up and try something else. If one makes a speciality of his bee-work he will see to it that his bees are kept in good condition, so that they can take advantage of every honey-flow; he will see that there is no spraying of fruit-trees done in the neighborhood while the trees are in blossom, as spraying fruit-trees while in blossom will surely kill bees, and so depopulate the hives as to cause the colonies to be so weak that they cannot build up into strong colonies in time to gather a crop of honey when it does come, as it is strong colonies that gather a surplus of honey, and weak colonies get but little more than a living, and often not that.

BEES A BENEFIT TO FRUIT MEN.

It seems a pity that there should be any friction between bee-keepers and horticulturists. If there is any difference it is the horticulturists that are more benefitted by bees than bee-keepers being benefitted by fruit. Bees do get a little honey from fruit-bloom, hence they may be poisoned when spraying is done, while the trees are in blossom; but most fruits are an injury to bees. It is almost universally acknowledged that the bees flitting from flower to flower carry the pollen, and thus cause the trees and bushes to have more and finer fruits.

Horticulturists and bee keepers should be firm friends, and thus help each other, and if losses do occur, to help each other bear the losses. If the bees seem to be hard on their neighbors' vineyard, let the bee-keeper be generous with his honey, and also the owner of the vineyard gather his grapes as soon as ripe and not leave them longer to crack open and thus tempt the bees, as bees never bother sound grapes. If both bee-keepers and hortrculturists would vie with each other to make the injury light, and overlook what cannot be avoided, or do as they would wish to be done by, there would be no need of resorting to law. Honey is a wonderful sweetener!

BEE-KEEPING FOR INVALID LADIES.

There are many households where there are sick daughters that might be greatly benefitted if they would take more out-of-door exercise; and if they could be presented with a colony of bees, or even given the profit from one or more colonies, it would give them new life. If once they could be induced to study the bee, they would find it so wonderful that many hours could be profitably passed in studying the mysteries of the hive and its wonderful inmates, and soon new life would come to the sick one in forgetting self, and in the prospect of earning a little fortune from the care of the busy bee. And when the bright, sunny hours of spring come, and the bees with their happy hum are flitting from flower to flower, the sick one would be induced to go out-of-doors and forget self and the many aches, as nothing is so conducive to health as to forget self and become intensely absorbed in something else, especially if one can see there is profit in it; and if one is so desirous of health that he or she will endure a little hardship in the way of working with bees, even if it does tire them some, and will grin and bear the stings, if they get any, as stings are a wonderful tonic—a summer thus passed may brown the face some and discolor the hands somewhat, but it cannot fail to bring more roses to the cheeks and a brightness to the eye, and give elasticity to the step, and an appetite that had before been a stranger to them. Never mind if the clothes do get somewhat soiled, it is "clean dirt;" and if you get too tired to walk, just lie down on the "soft side of a board" anywhere, if it is out-of-doors, or on the green grass, if the ground is warm and dry; and then look at the bees as they labor so earnestly to do their best, which they always do. I am sure, ere many weeks have passed the sick one will be on the highway to health, if not already there.

Warren Co., Ill.

Foul Brood—Its Alarming Spread, Etc.

BY C. P. DADANT.

I have lately been reading reports of foul brood, and of the number of colonies treated in different States by a number of foul-brood inspectors. The last in my hands is the Colorado report, made to the Secretary of the State Association by a number of County inspectors, and published in the "Rocky Mountain Bee Journal" for January, 1902. These reports make me feel very much behind the times, for after some 33 years of active bee-keeping, and a good portion of the time on a large scale, I have yet to see the first case of foul brood, not only in our own yards, but also in any yard that I have visited from time to time. My father, whose experience goes back some 20 years farther, also says that he has never seen a case of foul brood. It is true that we have had, occasionally, especially in early spring, a case of dead brood, generally caused by spring-dwindling, or by the desertion of the bees, but this accidental dying of brood was easily ended by the prompt burying of the dead brood, which removed all danger.

But here is a report that astounds me. According to this report, in the State of Colorado, in 1900, out of 7952 colonies inspected 799, or a little over ten percent, were found diseased. In 1901, out of 13,131 colonies inspected, 804 were found diseased, or a little over six percent. Just think of it!

I take it for granted that not all the bees in those counties were examined, for that would be a terrible condition, if that percent of all the bees were infected with foul brood. But the report does not say anything about the probable number of colonies in the country, and we are led to infer that the number mentioned covers all the bees in that portion of the country. It seems to me that a more detailed statement ought to be published. For instance, the report ought to state in how many apiaries the disease is found, where they were located, how many apiaries were found immune; and, if any apiaries were not examined, how many of these, and the reason why they were not examined. The probable number of colonies in the State ought to be embodied in the foul-brood report, so that strangers reading such a report may not be led to believe that this contagion is spread all over the State.

The reason that prompts me to ask this, is that the plain report, as printed in the journal, will give foreigners a very bad idea of the condition of bee-culture in the States where such reports are printed.

It seems to me that it would be well, also, that the localities where the disease is raging with the greatest vehemence be mentioned in the report, so that bee-keepers should avoid buying bees, or honey for feeding, from those localities *until the disease has been conquered.*

A contagious disease should be treated as all contagions are—by a prompt and effective quarantine. This quarantine will be in the interest of the affected apiaries themselves,

because it is necessary that the disease should be confined in as small a space as possible.

This is very much like battling with small-pox. Our little town was invaded by that dread disease last November. Just as soon as it was detected, the facts were published by the Mayor; the houses of the sick were quarantined, and the public houses were closed. The town put itself under strict quarantine for some 40 days, and at the end of that time the disease had disappeared. In a neighboring city they kept the light under the bushel, for fear of losing trade, and the result was a much longer and much more extensive siege of the disease.

But while we are carefully guarding against foul brood, let us not be hasty in declaring the existence of foul brood at the first sight of a cell or two of dead brood. Foul brood is a special disease, which has been described often enough to make every body familiar with it, and when a case of dead brood is found, one ought to make absolutely sure that it is a case of maligant foul brood before resorting to the extreme measures which foul brood demands.

At two different times in my experience I have had samples of dead brood sent me by bee-keepers who thought they had the dread disease in their apiaries, and in both cases I had the pleasure of informing them that I did not believe the disease was the true contagion. In both cases the subsequent disappearance of the disease proved that this was correct.

But in the modern methods of rearing and shipping queens all over the country, there lies a great danger, and, for that reason, I believe that the State inspectors, after making absolutely sure of the existence of the disease in a locality, ought to publish the fact in their report. After the disease is cured, it would be their duty publicly to mention that fact also. Can we not hear from some foul-brood inspectors in regard to this matter? Hamilton Co., Ill.

[Any or all the official foul-brood inspectors are invited to express their opinions on this subject, in these columns. —EDITOR.]

No. 5.—Bee-Keeping for Women.

An Ideal Occupation for People Suffering from Nervous Troubles.

BY EMMA M. WILSON.

I HAVE received a letter from a lady in New York, asking a number of questions, seeking further information in regard to bee-keeping for women. As the answers to these questions may be of benefit to other readers of the American Bee Journal, I have concluded to give them here.

This lady is suffering from nervous prostration, and would like to know if I had any of her symptoms, and, if so, if I took much medicine, or simply trusted to the open air and suitable diet to cure me. I did not have nervous prostration, but I do not know how soon I might have had it if I had kept on teaching, as I needed a rest, both physically and mentally. It is not best to take any more medicine than can possibly be helped for nervous trouble, and I certainly would trust much to out-door air and suitable diet.

If you belong to the class of nervous people, bee-keeping is an ideal occupation for you, if a genuine interest in bees is once awakened. Why? Because it keeps you in the open air; gives you physical exercise of the right sort in that which deeply interests you; and because it takes your thoughts entirely away from yourself. That last is what you need more than anything else. You are obliged to give your whole attention to what you are doing while working in the apiary. Often and often people have stood for some time a few yards away from Dr. Miller and myself, watching us work, and neither of us knew they were there until they spoke, so intent were we on what we were doing. Not much time to think of your own aches and pains, you see. And nervous people can make themselves believe they have any disease under the sun if they only think about their own aches and pains long enough. Nervous people are poor sleepers, and that which will keep their thoughts off from themselves, and keep them in the open air, will induce sleep, if anything will. It must be dreadful not to sleep a wink for two or three nights in a week, and certainly anything that would help to counteract such a state of affairs would be a boon, even if there were no money in it.

This lady has been taking boarders. She says she would like to hire most of her housework done, and work with her husband in the apiary. Let me advise you to give up all thoughts of boarders for the present, get as good a hired girl as you possibly can (for I think a poor one is worse than none), and give up all the care you can. No matter how good your help, the *care* of boarders would still be left upon you. It is not work that kills people so much as worry and fretting. A good, hearty laugh is worth more than a dose of medicine for nervous trouble.

The first thing to do is to get well. So please remember what I say: Give up the boarders as the first step. Try not to worry about anything, and keep in the open air as much as possible; then think about your bees instead of yourself, and I firmly believe you will soon be well.

To your further questions I answer as follows:

No, I do not run an apiary of my own. I work with Dr. Miller.

When we have a large enough crop of honey we ship it; if very small, we sell at home.

Yes, I wear gloves. I have described what kind in previous article. McHenry Co., Ill.

A Feeder for Feeding over the Frames.

BY H. DUPRET.

MR. TURNER BUSWELL, of Maine, desires me to describe the chimney feeder covered with glass, which I referred to on page 215.

In answer, I beg to say that the chimney feeder is a very simple affair. The principle involved is to allow as little warmth to escape from the cluster of bees as possible, and at the same time to give the bees free access to the feed, without compelling them to take more than they want. Any

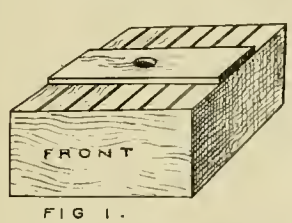

FIG 1.

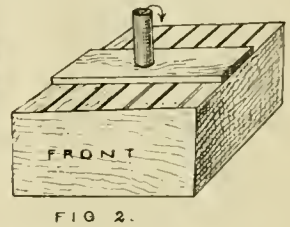

FIG 2.

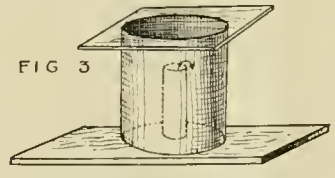

FIG. 1.—Communication Bridge with ¼-inch space under it.
FIG. 2.—Chimney Feeder on top of the frames.
FIG. 3.—Feeder and Communication Bridge combined.

tin box or can will do. Punch a hole in the center, about one inch in diameter; solder a tube or chimney around this hole, taking care to make the chimney shorter than the walls of the box by ¼ inch at least. Put in the feed (if liquid, cover it with bits of cork or wax to prevent the drowning of the bees), place the box in communication with the cluster of bees, on top of the frames, providing a stick as a ladder in the chimney for greater convenience of the bees. Then cover the feeder box with a glass, so that you can watch the actions of the bees whenever you wish. Cover also snugly the top of the frames with any warm material.

For greater convenience together with this feeder I use a Hill's device of my own. In fact, every hive is prepared for winter with such device, which serves as a communication bridge for the handy clustering of the bees during the cold season.

This communication-bridge, to be placed on top across the frames, and a ¼ inch space for the free communication of the bees from one frame to another, and is provided with an auger-hole, which, when not in use, is covered with a bit of glass. Now any hive marked as light in stores in the fall will receive in the spring an early feeding through this auger-hole. Honey in sections can be given to the bees if the feeder be made of the right size.

In conclusion I must say that I found the principle of this feeder in the French paper, "L'Apiculteur," of Paris. Quebec, Canada.

The Part Bees and Other Insects Play in Fertilizing Fruit-Tree Bloom.

BY THADDEUS SMITH.

SINCE writing an article on this subject, published in the American Bee Journal of April, 1901, pages 262 and 279, we have had another season for observation and investigation: and as I made it my especial business to watch closely the fruit-bloom last May for insects, I propose to give some results of the investigation.

It is well known to be a fact beyond dispute that certain islands in Lake Erie, where there are no bees kept and bees never visit, produce an abundance of fine fruit. We see here, year after year, full and quite regular crops of fruit of various kinds, grown more uniformly, I believe, than in any other place in the state of Ohio, or of the same latitude. This completely settles the question with myself, and with others who have had personal evidence of the conditions that the bees are in no way necessary, nor of any advantage whatever, in producing a good crop of fruit—not on these islands, at any rate. If not necessary on these islands, why should they be anywhere?

This question being settled, the investigation I had to make last season was to try to find out what part, if any, other insects played in fertilizing fruit-bloom. To this end I gave my especial attention, not only here at home but upon other islands where I knew there were no bees. On May 15 I visited Middle Bass. I found the greatest profusion of bloom on many varieties of fruit trees and shrubs. They grow every variety of fruit and berries that can be grown in this latitude. They grow them successfully without bees. The friend with whom I stopped said to me:

"I have been watching the fruit-trees closely for bees and other insects. I have not seen a bee. The only insects seen were on the apricot trees which bloomed a week before the other fruit-trees. They were a peculiar kind of insect that I never saw before, and they soon disappeared. I have been among my trees daily since in bloom, and never saw anything more of this insect upon any other trees, and no other insect of any other kind."

Such was the testimony of Mr. George M. High. Mr. High is personally known to Prof. A. J. Cook, who will vouch for his intelligence and integrity, and he is known by many other men of prominence who have made his acquaintance in visiting the summer resorts of these islands, and through business. He is widely known as an intelligent and successful fruit-grower. In company with Mr. High we renewed the search in his orchards with the like results he described.

I watched very closely the bloom of fruit-trees and vines on my own place. Bees I found, for there are bee-keepers scattered all over the Island. My search was for the "other nectar-loving insects" that we are told do the work of fertilizing bloom with the bees or without them. I will not say that I did not see one single insect on any of the flowers besides the bees, but they were very scarce, and very small, much more so than I expected to find them. There were practically none worth taking into consideration in connection with carrying pollen from one flower to another. It would have been impossible that there were enough to visit one flower in 10,000. It was too early in the season, as has been observed heretofore by Mr. Hershiser, Mr. High, myself and others, for these nectar-loving or other kinds of insects to be out in any numbers to be of benefit in pollenizing the bloom.

In reviewing my former article upon this subject, our erudite friend of the "Afterthoughts," makes the very uncharitable intimation that I was not competent to see insects, and my evidence unreliable as to there being no nectar-loving insects found upon the fruit-bloom on these islands where are no bees. Mr. Hasty dismisses our testimony with a sneer, saying: "It is quite possible that a skilled entomologist with *only half an eye*, would find nectar-loving insects *abnormally thick*." (Italics mine.) And again he says: "Apparently neither himself nor his friend are well-posted in insect lore." Perhaps not. But is it necessary to be "well-posted in insect lore" to see the insects when you look carefully for them as we did? The experience of over a quarter of a century engaged in fruit-culture, where we have to study and combat the many diseases and insects injurious to both trees and fruit, ought somewhat to qualify us to see insects of any kind on the trees, and should entitle our evidence to some respect. No, nectar-loving, nor other kind of insects, are *not* found thick here, "abnormally" or otherwise, as early in the season as the blooming of fruit-trees.

Mr. Hasty suggests that there should be a "chance for some friendly hand to show how much better results" could be obtained on these islands with bees. I believe that no intelligent person will claim that bees or other insects can possibly have any influence on the size and quality of fruit. It is only thought by some that bees have something to do with disseminating the pollen, thereby fructifying the stamens and giving a *better setting* of fruit, and a larger crop, than there would be without them. The most kinds of fruit on beeless islands *set too much fruit*, and it has to be picked off—thinned out—to keep it from being too small. Those that do not require thinning usually set as much as is wanted to give good size and quality. Now, what chance could there be to obtain better results with bees here when we get more fruit set than is wanted?

But that "friendly hand" has, incidently, repeatedly tested that very thing by comparing the fruit crops grown on an island with bees, and that grown on a neighboring island without bees. Pelee Island, like its neighbors in this group of islands, is well adapted to fruit-growing, and many colonies of bees are kept upon it, but we know that the fruit crop is no more certain, no larger nor better than our neighbors' who are without bees. In fact, there are some incidents that would indicate to a superficial observer that the best crops are grown where there are no bees. For instance, last season I had 60 bearing peach-trees of a certain variety that bloomed profusely but did not set a peach. In visiting my neighbor in October I found that his peach-trees, of the same variety, had produced a good crop, and there were no bees. Now, if this had been the reverse—if the failure had been where there were no bees instead of where bees were plentiful—how quickly the incident would have been used as an argument to show the importance of our little friends in this matter. And this is just like all other arguments used to show that bees increase the fruit crop. The bees have nothing to do with it.

I would be pleased to have Mr. Hasty investigate to see if insects frequent the bloom here in May in "abnormal numbers;" and I hereby invite him to come over to Put-in-Bay next May. [This month.—Ed] and see for himself. There is a steamboat line from Toledo to Put-in-Bay, and it is only a short and pleasant ride. From the Bay he can visit other islands, and I shall be glad to have him visit me on Pelee Island, and I shall take pleasure in meeting him and entertaining him while on our Island, and will do what I can in assisting his investigation. I have no theory that I am wedded to, no "ax to grind," and only seek the truth. If he cannot come let him send some one else who is "well-posted in bee-lore." Not some one with "half an eye," or one eye, but with two good eyes assisted by glasses.

I have but little hopes of any accepting this invitation. They might learn what they do not wish to know. The old adage, "Convince a man against his will, he will be of the same opinion still," is quite true; and to convince one against his supposed pecuniary interest is still harder. The advocates of this bee-pollenizing theory seem to think that it is of great importance to bees and bee-keepers that its truth should be established, and therefore they are hard to convince otherwise, even when the facts are against them. There should be no antagonism between bee-keepers and fruit-growers. An experience of 40 years in both occupations has convinced me that neither is injured nor benefitted by the other—not in my locality.

Ontario, Canada, Nov. 13, 1901.

[In the interest of fairness to both sides of this controversy we give place to the foregoing article. It should have appeared long ago, but perhaps now it will be just in time for those who so desire to make more careful investigation along the line indicated.—EDITOR.]

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

BEES—RACES AND SPECIES—DEEP-TUBE FLOWERS.

Most species in Nature have few different races within the species, or none at all. Apis mellifera has distinct races, so many that it is doubtful if any other natural species can equal it in that respect. This is a hint for us. Prof. Cook thinks that we shall find the bee very responsive to intelligent breeding. In addition to the advantages of long-tubed flowers, which he mentions, there is another important one: They hold and keep a supply of nectar which lasts over and through the spells of weather in which none is secreted. I have seen dry hay in the mow in which the clover heads were decidedly sweet to chew. Page 183.

HONEY AND BEE STATISTICS.

It took lots of able, very able, guessing to get so far out of the old, inflated, and worthless estimates, and so nearly down to hard-pan, as are the Gleanings' estimates of honey-statistics on page 185. And this estimate makes the per capita over two pounds per person, which same might be a little hard to prove up. It would be ten pounds for each family of five; and so few families actually consume that, and such an immense number of them never eat an ounce of honey from one year's end to another, that a grain of doubt is still permissible. Were it not that bakers and other big operators take so large a share of the extracted, the grain of doubt would be something more than a grain.

Glad Uncle Sam has gotten around at last to have some bee-statistics. Of course, we are not to take them exactly as we take the multiplication-table and the Sermon on the Mount. We may safely draw a little on our own inner consciousness in digesting them. Manifestly the number of people keeping bees—707,261—is *not an exaggeration.* That's something to the good—and almost new. People are not very likely to report bees where there are none, that is, not when guessing colonies by the county-yields to actual enumeration. We may take also as safe on one side the total number of colonies—4,109,626—and the very modest valuation, which figures $2.50 per colony. When it comes to the value of the product it's more of a guessing-match; but the tendency to exaggerate in guessing may be much more than balanced by individual census-takers, assuming that there are no bees in territory where such is not the fact. This last source of error we can know little or nothing about. The two are not for the same year, nevertheless it may be worth while to put the United States figures and the Gleanings' estimate side and side:

VALUE OF PRODUCT.

United States	$6,664,904
Gleanings' minimum	8,000,000

POUNDS OF HONEY.

United States total	61,196,160
Gleanings' (comb only)	50,000,000
Gleanings' total	175,000,000

As for the number of pounds, I'll guess that the truth lies between the two somewhere. Page 211.

HANDLING COMBS OF HONEY.

It seems to me that if Mr. Doolittle was an extracting fellow, and if he tossed heavy combs with the tips of his middle fingers for hours, the finger muscles would cry out, "We are sore, sir." Try the method, of course—then if you don't entirely like it try this: Grasp the comb at the corners with a grip like a vise. Imagine yourself about to pitch a base-ball with the center of the earth for home-plate. Pitch it. In other words, don't let the comb go down by its own weight and be jerked back, but jerk it both ways, being especially snappy on the down motion. But it won't do to try this on tender combs which are not built down to the bottom-bar. Page 185.

TOO MUCH RAIN AND GOOD HONEY-FLOWS.

Chili, down at latitude 40, appears to be a wet place. I figure 2,860 millimeters to be 9 feet 4 inches—more rain than we want sprinkled over us while we are trying to feed up the bees—especially as we get the idea that there is no dry season there. Evenly distributed, it would give quite a heavy rain for every day of the year—one-third of an inch. Wonder if this too much rain bears some sort of relation to the very excellent honey-flows found just north of the rain-belt. Page 187.

FASTENING NO-DRIP STRIPS IN CASES.

Apparently S. D. Buell has a winning idea for getting the strips on the bottom of honey-cases. Slotted board three inches wide to hold them just where wanted, and nail them on the bottom-board before the rest of the case is put together. But T. F. Bingham thinks that first-rate paste will do instead of nails, and save possible leaks through nail-holes. Hardly know if the Buell method could come in when paper trays are to be added. Pages 189 and 219.

TEMPERATURE IN A WINTER BEE-REPOSITORY.

Wouldn't that corrected error on page 190 be a little more ideal if it were corrected some more? Get it up another 10 degrees, and say 45; 35 looks like hovering too close to the freezing-point. Pages 156 and 190.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Building a Bee-House—Finding Queens.

I am very glad you called my attention to the question I should have asked above all others. But it is never to late to mend one's ways and profit by mistakes made. I will therefore collect a few of the many questions I would like to ask, and bother you once more. I will give you a pen description of the bee-house I have been thinking of making.

It is to be 10x12 feet, with an 8-foot studding 2x6 inches, and boarded up on both sides with matched lumber, and tarred paper between the boards: studding on both sides. That will keep the sawdust from leaking out in case there would be loose knots in the lumber.

I will put tarred paper on the outside, and then side the house up with good siding, and place one foot of saw-dust on the ceiling. To keep the house warm when it gets too cold, I will build a storm-shed in the same manner, and in the shed put a tank of water that has pipes running through the wall to the room with the bees in, so arranged that there will be a complete circulation of water. I will heat the water with a large lamp placed under the tank; this tank will have small tubes running from end to end, the same as a boiler with a tight-fitting hood on top, and a small pipe passing out of the roof. In this way there will be no fumes in the bee-house, and by turning the lamp high it will heat the water faster, and by letting it burn low it will keep the water just warm.

I have been thinking of using the house to keep bees in all summer, and in winter store a few more colonies that I might have in my yard. Now:

1. Would you advise me to build such a bee-house and operate it in that way?

2. When I took my 6 colonies out last week I found 5 of them had a good deal of brood, and one had none at all, nor any eggs, either; and the second day this one hive had no bees, either. Where did the bees go?

3. What made the 5 colonies rear so much brood while in the cellar? The temperature was all the way from 38 to 47 degrees all winter, and the bees very quiet?

4. I found 1 or 2 cells of brood sealed here and there in all parts of the frames. What does this indicate?

5. Will it injure the bees any to rear brood in the cellar? and will the chilly weather we have now (25 degrees above) harm the brood any if warmly packed on top?

6. I would like to do away with hunting up the queen, and have thought of placing the colony I wish to divide on top of a new hive with full sheets of foundation in the frames, and when I find eggs in the lower hive take the upper one off and set it by the side of the new one, and in

troduce a laying queen as soon as the time comes. Will that work all right? How long will it be before the queen comes down into the new hive? MINNESOTA.

ANSWERS.—1. No, I wouldn't advise it. I am very much afraid it would not come up to your expectations.

2. Very likely they swarmed out into one of the other hives.

3. I don't know; and yet it is nothing very unusal for brood to be present before bees are taken out of the cellar.

4. Nothing unusual.

5. They will probably come out all right.

6. How are you going to tell where the queen is? For when you find eggs in the lower story you are not at all sure the queen is there. I have had many colonies with two stories, and when the queen laid a quantity of eggs she would return to the upper story, and then kept going from one story to the other, so that I could never tell which story she was in without finding her. Possibly this plan may serve your desire of knowing in which of two hives the queen is without actually seeing her: Divide the colony, putting part of the combs with their bees in another hive. Two or three days later the part that has queen-cells started will be the queenless one. Of course that is on the supposition that no queen-cells were present at the time of making the division.

Dogwood and Honeysuckle—Bumble-Bees—Increase.

1. Does the enclosed flower yield honey? It grows on a tree called "dogwood," and the woods are full of it, hereabouts. Also, does "honeysuckle" yield honey?

2. Is the honey gathered from hops and bitterweed (wild chamomile) bitter in taste? I bought some colonies in Alabama lately, and the honey contained in the hives is very bitter, and tastes like a drugstore.

3. Do bumble-bees sting, or store honey? I notice about my well a great lot of rather small black bees that live in holes in the ground. To-day I noticed them balling a queen. Do you know anything of them?

4. If I take four frames containing some brood from a strong colony, and put it in a new hive, and move the old hive to a new stand, will I not stand a fair chance of getting two colonies? What is the objection to this means of increasing when one does not know enough about queen-rearing to increase *via* nuclei? MISSISSIPPI.

ANSWERS.—1. The dogwood (cornus florida) which you send does not, I think, yield honey, and the bees have not tongues long enough to reach into the deep flowers of the honeysuckle.

2. I don't know; I'm afraid it is.

3. Bumble-bees sting, as many a barefoot farmer's boy can testify; and they store honey, but never in any considerable quantity. I never found a nest with as much as a tablespoonful of honey in it. I have seen small black bees, but I am not acquainted with their habits.

4. Yes, you will stand a fair chance of having two colonies, and possibly three; for if the queen is taken to the new stand, and the queenless part left on the old stand, that queenless part, being strong, may send out a swarm when the first young queen emerges. An objection to the plan is that the queenless part will not have any increase from its new queen for nearly six weeks.

Drones—Rearing Queens—Transferring, Etc.

1. I have drones from a laying worker whose mother was a full-blood Italian queen; they are so yellow that you can tell them as far as you can see them. The drones in another full-blood Italian colony look like common black ones a little way off. Why is this? and which is right?

2. This is our main swarming-time, but on account of the cold spring they have not started but are killing off the drones like they do late in the summer. Why is this?

3. Will drones from one hive go into another hive?

4. Suppose I give a queenless colony young brood to rear, say to-day, and they start to rear a queen, how many days before they will have one sealed up?

5. Which will they use, an egg or one just hatched?

6. Which will be the most apt to try to rear a queen, one with laying workers or without? If there is any difference, which race will be the most likely to rear one, Italian, black or Carniolan?

7. Speaking of black, we have what a bee-keeper called a "brown gum" and "a little black fellow" that would try to sting the "old boy" himself. Which is meant when bee-papers say "black?"

8. I have a large number of queenless colonies. Last summer and fall I think a large number superseded, and reared young queens. Do you suppose this has anything to do with the present large number of queenless ones? If so, how?

9. I know the comb comes off of the bees; where do they keep it, or rather, where does it come out?

10. Now, Dr. Miller, you know more about bees in 5 minutes than I do in a year, but I want to give a point or two. I read your answers to all our greenhorn questions; you advise several in answer to their question about transferring out of box-hives to do so in fruit-bloom time. I am sure that is all right up there, but in this part of the country, and may be in other parts, it is quite different. It is 2 or 3 weeks from fruit-bloom until our next honey-flow, and it is nearly always cold during fruit-bloom and for the next 3 or more weeks. Should one transfer then, and not feed, he would lose his bees, every time. The reason I call your attention to this is, because I believe that nearly all of us greenhorns that have bees in box-hives would never think of feeding, but would use an empty hive or dry combs. ALABAMA.

ANSWERS.—1. I don't know why it is, but there seems to be a great variation in appearance of drones, and either one may be pure stock.

2. Weather so cold that bees do not gather freely is sufficient reason in the eyes of the workers for disposing of their lazy brothers.

3. Yes, they seem to be free commoners.

4. In something like three or four days.

5. A larva perhaps two days old, or younger.

6. I don't know whether there is any difference; if there is, I should guess the Carniolan.

7. The subject is a little mixed, but usually the term "brown German" and the "black" mean the same thing. Tunisian bees are the blackest I ever had, and possibly the blackest that exist, and the ones I had were what my assistant called "vindictive little sinners."

8. It may, and it may not. The young queens may have been lost when taking their wedding-flight. As a rule, I think there is little loss of queens when bees do their own superseding.

9. Look sharp and you can see the little scales of wax between the rings on the under side of the abdomen, where they are secreted by the wax-glands.

10. No one realizes more fully than I the fact that there are a whole lot of things that I don't know about bees; and I feel a good deal like a humbug sometimes when I try to answer about things hundreds of miles away where I have never been, and I will be ever so much obliged if you good people in the South will straighten me out when I go wild in my answers. You probably are entirely right that fruit-bloom would be a bad time for you to transfer. More and more that time is going out of use, and the transferring is not done till 21 days after the issuing of the first swarm.

Stimulative Feeding.

Why is it that stimulative feeding of bees in the spring, in the hands of amateurs, is always spoken of as a dangerous business, and referred to as a two-edged sword, etc.?

NEW BRUNSWICK.

ANSWER.—Beeause feeding induces the bees to fly, and if the weather is such that they will be chilled and lost, there may not be a sufficient gain in brood to overbalance the loss.

Pollen Substitute and Robbing.

Will throwing out corn-meal, rye or Graham flour that has enticed bees from other apiaries cause robbing?

ILLINOIS.

ANSWER.—I do not believe that exposing any substitute for pollen will cause robbing.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, a-long as they last.

THE AMERICAN BEE JOURNAL.

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

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3-Frame Nuclei For Sale.

We have arranged with a bee-keeper located in Kankakee Co., Ill., (within 12 miles of Kankakee), to fill orders for Nuclei of bees. All are to be first-class, and most of the bees show Italian markings. The queens in the Nuclei will be Italian, of this year's rearing.

The Nuclei are 3-frame Langstroth, in light shipping-boxes. Prices: 1 for $3.00; 5 at $2.75 each.

All are f.o.b. shipping-point, and will be sent by express, a postal card notice being mailed to each purchaser a day or two before shipping the bees.

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Smokers, Sections, Comb Foundation
And all Apiarian Supplies cheap. Send for FREE Catalogue.
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I have a lot of 25 colonies of bees in fine condition, in hives holding frames 12x12 inches, the usual depth, that I will let go at the following rates, viz: One colony, $5.00; 5 colonies at $4.50 each; 10 colonies at $4.00 each: or the entire lot to one party for $75.00, cash with the order. These bees have a mixture of Carniolan blood in them, but are workers having averaged nearly double the amount of honey per colony that any of the pure stock did in the same apiary the past dry season. I guarantee safe delivery and freedom from disease. Act quick, for these bees are a bargain at the above price, and this advertisement will not appear again.

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COMB FOUNDATION ADVANCED 3 CENTS A POUND.

Owing to the increased price of beeswax, until further notice, dealers handling the A. I. Root Company's goods are compelled to raise the price of Comb Foundation 3 cents per pound above the prices found in their price-lists and catalogs. Please take notice.—Adv.

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The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

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Tested	1.50	8.00	15.00
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State price, kind and quantity.
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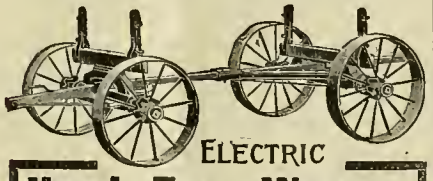

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make the work easier for both the man and team. The tires being wide they do not cut into the ground; the labor of loading is reduced many times, because of the short lift. They are equipped with our famous **Electric Steel Wheels**, either straight or stagger spokes. Wheels any height from 24 to 60 inches. White hickory axles, steel bounds. Guaranteed to carry 4000 lbs. Why not get started right by putting in one of these wagons. We make our steel wheels to fit any wagon. Write for the catalog. It is free.

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75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

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to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.

Weekly Budget.

EMERSON T. ABBOTT,

The New General Manager of the National Bee-Keepers' Association.

Editor E. R. Root, of Gleanings in Bee-Culture, made this comment on Mr. Abbott, when announcing his election to the office of General Manager:

"One of Mr. Abbott's marked characteristics is his strenuous aggressiveness. Perhaps the fur may fly. If it does, it will be in the defense of the rights of bee-keepers."

And Editor Hutchinson, of the Bee-Keepers' Review, had this to say:

"Mr. Abbott is enthusiastic, progressive and aggressive, has modern ideas, always attends the conventions, is a good speaker—the best we have in our ranks—and I bespeak prosperity for the Association under his leadership."

MR. BOOMER AND HIS APIARY.—Through the courtesy of the Canadian Bee Journal, we are permitted to present to our readers the picture on the front page of this issue, and also the following, all taken from the April number of that paper:

A WATERLOO COUNTY APIARY.

We have pleasure in giving a picture of the apiary of Mr. A. Boomer, of Waterloo Co., Ont. Many of our readers are personally acquainted with this tall, old gentleman, here shown bending over his bee-hives, having met him in convention. We think that we are safe in saying that Mr. Boomer is the tallest of Ontario's bee-keepers, measuring 6 feet 4½ inches, and although he has reached the full three-score years and ten, he is still straight as a reed, hale and hearty, and can run after a swarm like a boy. We wish that our good friend may be long spared to enjoy his pleasant and profitable "side line," as will be noted in the following:

"The photograph of my apiary was taken in August, 1901. I have been keeping bees for some 15 years with somewhat varied success. When I commenced I was, as I am still, a traveling agent, and as I was advancing in years I was looking for something that would give me some employment, and possibly some returns, when I became too old to travel; but long before I felt like giving up

the road I found myself with a yard of fully 100 colonies of bees. For a few years I found it more profitable to hire a man for some three months in the early summer than to give up my business; but last summer, although 70 years of age, I did the work myself (my partner, nearly as old as myself, helping me a little in the extracting-room), and I attended to the Division Court business of the township, of which Court I am the clerk; did considerable insurance business and conveyancing, as well as keeping up the sale of sewing machines and musical instruments. Not so bad for an old man, is it? especially as the crop of honey last season was somewhat large, running up to fully 10,000 pounds. I have only had one season of larger returns since keeping bees, and that was in 1899, when it ran up to fully 11,000 pounds, averaging about 120 pounds per colony. Last year the average would be about 110 pounds. My greatest average in any one year was 125 pounds per colony.

"I use the Richardson hive, mostly those made with bevelled joints and sun caps, and don't have to keep the covers on with stones. My yard, as will be noticed, is rather contracted for such a large number of colonies, being only about 60x70 feet, the rest of the ground being taken up with buildings and garden. The small building to the right is the extracting-room, size 10x14.

"My bees are usually very cross, last year particularly so, and this, in the judgment of practical bee-keepers, was probably due to the congested state of the yard. This I intend to overcome by removing about one-fourth of them to an out-yard this season. It may be possible that if I were to devote my whole time to it I might make a greater success of it, but I find that my winter losses are not greater than of those who devote their whole time to them, and my average yield of honey per colony is about as good as that of the specialist.

"I might mention that at the time the photograph was taken I was in the yard taking out combs for extracting. A. BOOMER."

FARMERS' NATIONAL CONGRESS.—It is quite probable that farmers generally do not fully realize the scope and extent of the Farmers' National Congress, as otherwise they would take a much deeper interest in it. The topics discussed are more particularly those of a national or international character, quite different from what is generally on the program at farmers' institutes. The following is a copy of the program for the 1902 meeting:

1. Interoceanic canal.
2. National irrigation.
3. Reciprocity—how may it affect agricultural interests?
4. Effect of present insular possessions on the agriculture of the United States.
5. Preservation of forest and fruit trees and reforestation.
6. Injurious insects, insect pests and fungi.
7. What part of a man's farm does he sell when he sells the crop?
8. Postal reforms particularly affecting the farmer.
9. Mutual relations of Northern and Southern farmers.
10. Dairy interests of the United States as related to the markets of the world.
11. Farm products other than dairy products in the markets of the world.
12. The labor problem from the farmer's standpoint.
13. How can we best build up our merchant marine?

The Farmers' National Congress is made up of delegates and associate delegates appointed by the governors of each State. Every governor appoints as many delegates as the State has representatives in both houses of Congress, and as many associate delegates as he chooses.

The meeting will be held at Macon, Ga., Oct. 7–10, and the people of that city will give a hearty welcome to all who attend.

The Southeastern Passenger Association has granted a rate of one fare for round trip; and there is a fair indication that the other passenger associations will make better than an excursion rate.

The men who will be invited to take part in the program will be the choicest that can be selected, and each one will be an acknowledged leader in his line. Isn't it about time the farmers took a practical hand in helping to solve the problems that pertain to their own affairs?

We hope to have at least 1000 delegates, associate delegates and visitors.

John M. Stahl, 4328 Langley Ave., Chicago, Ill., is secretary, and will gladly answer any correspondence for the Congress.

J. H. REYNOLDS, *Treas.*

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14A26t SPRING HILL, TENN.
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Nucleus Colonies, Queens, Strawberry Plants. American Bee Journal and Tested Queen, $1.50. Circular free.

J. F. MICHAEL,
14A4t R. R. 6, WINCHESTER, IND.

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We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

GENERAL ITEMS

Light Honey-Yield Expected.

Our rains came very early in this locality, and then a long, dry spell. Flowers started to bloom and then dried up. Then in March we had some good rains, which will insure good farm crops. But I fear Southern California is "not in it" for a honey crop. My judgment, based on 20 years' experience, makes me think the yield will be light.

DELOS WOOD.

Santa Barbara Co., Calif.

Rather Bad Spring for Bees.

The spring has been rather bad for bees; but to-day the thermometer has made a jump, and at noon it stands at 83 degrees in the shade. I did not suppose it had been warm enough to bring out dandelions, but they are out in considerable number to-day. Unless, however, we soon get rain all vegetation will suffer beyond repair.

I seem to be stealing some other man's thunder on page 245. All that is credited to Dr. Miller on the second half of the page should be credited to some one else.

C. C. MILLER.

McHenry Co., Ill., April 21.

[That seems to be an error of the shorthand reporter. It is impossible to correct it now.—EDITOR.]

Packing Bees for Winter.

On page 238, Mr. Turner Buswell, in referring to my statement as to how I winter my bees, asks:

"How many inches of planer-shavings are put next to the carpet? and why a layer of fine sawdust?"

In regard to the layer of shavings directly over the brood-nest, I was misunderstood, as I do not put any planer-shavings directly over the quilt covering the frames, but pack underneath and all around the hive up to within about 2 inches of the top of the hive, with the shavings, then I put on fine, dry sawdust, and extend about 2 inches above the hive; then put on 8 or more inches of the planer-shavings.

The reason I put the fine sawdust just over the brood-nest is for the same reason that one puts fine woolen blankets on the bed in winter, or the finest underwear next to the body, *i. e.*, to retain the heat.

The planer-shavings are next applied in greater depth to keep out the extreme cold. Whether the sawdust alone would be just as good I can not say, but I do know that the shavings, which form numerous little dead-air spaces, are all right.

One year ago this winter the packing was given a good test when fully 75 percent of

the bees through this part of the country were lost, while mine came through with very little loss (and that was caused by starvation).

I have not examined all of my bees as yet this spring, but what I have examined are apparently in as good condition as when they were packed last fall. IRA D. BARTLETT.

Charlevoix Co., Mich., April 14.

Another Frame-Spacer.

I send a gauge for spacing frames in the hive. A good many devices have been offered and used, but, having tried them all, there is no device that gave me such satisfaction as the gauge I am using, and have had for the last 20 years. Put a gauge at each end of the hive across the frames, and fasten a similar gauge in the center across the body of the hive, then when you fasten the cover and bottom-board with hooks to the hive, you may turn the hive whichever way you like, and none of the frames will become dislodged, and no bees hurt. As the gauges at the ends cover up the rabbet, the super closes better at the ends, and the bees have no chance to get out or in if the outside rim should warp.

If you want to take out or invert a frame, all you have to do is to take off the gauges, and you may move the frames to either side and take out or insert with the greatest ease, without fear of crushing any bees or scraping

RUMELY That is a name that means character and utility. It suggests the best in Threshing Machinery. If investigating, start with the **Rumely** and you will end at the same place. Get our catalog on the **New Rumely Separator** and the **Rumely Rear Geared Traction Engine.** All approved devices and appliances to each, and constitute the one perfect threshing outfit. Catalog shows our engines for all purposes. We send it for the asking. Write to-day.

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BINGHAM'S PATENT Smokers

24 years the best. Send for Circular.

25Atf T. F. BINGHAM, Farwell, Mich.

SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.

DRAPER PUBLISHING CO., Chicago, Ills.

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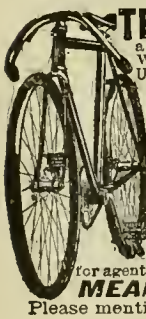
Maple Hill Poultry Farm

Is now selling **EGGS** for hatching from Standard Bred, High-Scoring stock. Barred Plymouth Rocks, Black Langshans, and Rose-Comb Brown Leghorns. Eggs, $1.50 per 15; $2.50 per 30. Stock in season.

EUGENE HAMBAUGH,

16A4t MT. STERLING, ILL.

Please mention Bee Journal when writing.



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40 colonies of Hybrid Bees, all in Dovetailed Hives, on 8 self-spacing Hoffman Frames. One to 10 colonies, $3.00 per colony; 10 or more, $2.50 per colony. One super goes with each hive. All bees guaranteed to arrive safely by express.

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Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

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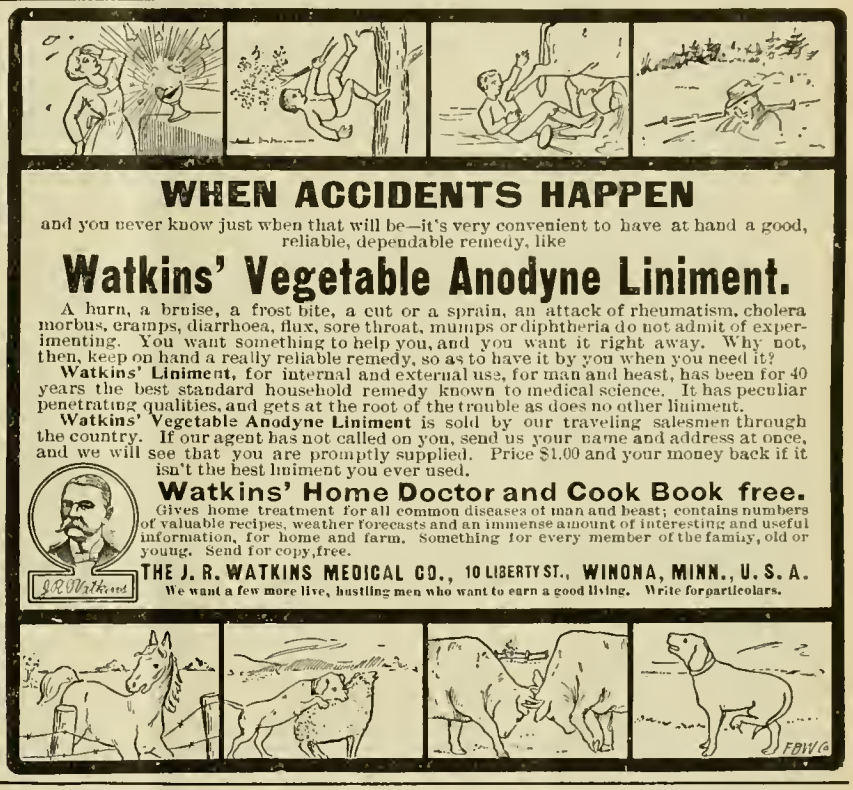
WHEN ACCIDENTS HAPPEN
and you never know just when that will be—it's very convenient to have at hand a good, reliable, dependable remedy, like
Watkins' Vegetable Anodyne Liniment.
A burn, a bruise, a frost bite, a cut or a sprain, an attack of rheumatism, cholera morbus, cramps, diarrhoea, flux, sore throat, mumps or diphtheria do not admit of experimenting. You want something to help you, and you want it right away. Why not, then, keep on hand a really reliable remedy, so as to have it by you when you need it?
Watkins' Liniment, for internal and external use, for man and beast, has been for 40 years the best standard household remedy known to medical science. It has peculiar penetrating qualities, and gets at the root of the trouble as does no other liniment.
Watkins' Vegetable Anodyne Liniment is sold by our traveling salesmen through the country. If our agent has not called on you, send us your name and address at once, and we will see that you are promptly supplied. Price $1.00 and your money back if it isn't the best liniment you ever used.
Watkins' Home Doctor and Cook Book free.
Gives home treatment for all common diseases of man and beast; contains numbers of valuable recipes, weather forecasts and an immense amount of interesting and useful information, for home and farm. Something for every member of the family, old or young. Send for copy, free.
THE J. R. WATKINS MEDICAL CO., 10 LIBERTY ST., WINONA, MINN., U. S. A.
We want a few more live, hustling men who want to earn a good living. Write for particulars.

30 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 30 cents a pound—CASH—for best yellow, upon its receipt, or 32 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Yes, Sir! The MUTH'S SPECIAL dovetail hive is a "Cracker Jack." COVER and BOTTOM-BOARD are absolutely warp-proof. We know because we are practical. Our illustrated catalog explains it all. You can have one by asking. Not a hive left over from last season. We sell the finest SUPPLIES at manufacturers' prices.

STANDARD BRED QUEENS, none better than our BUCKEYE STRAIN of 3-BANDERS and MUTH'S STRAIN GOLDEN ITALIANS. 75 cents each; 6 for $4.00. Safe arrival guaranteed.

THE FRED W. MUTH CO., Front an Walnut Sts., CINCINNATI, OHIO.

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Please Mention the Bee Journal when writing Advertisers *****

No. 391 Buggy. Price, $59.00, As good as sells for $85.00 more.

29 YEARS SELLING DIRECT.

We are the largest manufacturers of vehicles and harness in the world selling to consumers, and we have been doing business in this way for 29 years.

WE HAVE NO AGENTS

but ship anywhere for examination guaranteeing safe delivery. You are out nothing if not satisfied. We make 195 styles of vehicles and 65 styles of harness. Our prices represent the cost of material and making, plus one profit. Our large free catalogue shows complete line. Send for it.

No. 740 Open Stanhope. Has ¾ inch Kelly rubber tires. Price, $82. As good as sells for $50 more.

Elkhart Carriage & Harness Manufacturing Co., Elkhart, Ind.

SPLIT HICKORY VEHICLES

We put our honor against yours. If you want a new buggy or carriage this season, and would like not only to see it set up, but to use it and satisfy yourself that it is a bargain, we will ship you one on

Thirty Days' Free Trial.

We believe our **Split Hickory Vehicles** are the best on the market at any price, and we believe you will give them a fair trial. If after thirty days you are not satisfied, return them to us. There will be nothing to pay. All this is fully explained in our new illustrated catalogue, which is free. Besides vehicles it shows a full line of harness.

OHIO CARRIAGE MFG. CO.,
Station 6, Cincinnati, Ohio.

Have You Seen Our Blue Cat-

alog? 60 illustrated pages; describes **EVERYTHING NEEDED IN THE APIARY.** **BEST** goods at the **LOWEST** prices. Alternating hives and Ferguson supers. Sent FREE; write for it. Tanks from galv. steel, red cedar, cypress or fir; freight paid; price-list free.

KRETCHMER MFG. CO., box 90, Red Oak, Iowa.

Agencies: Trester Supply Co., Lincoln, Neb.; Shugart & Ouran, Council Bluffs, Iowa; Chas. Spangler, Kentland, Ind. 12E26t

FOR GETTING NEW SUBSCRIBERS.

Red Clover Queens

FOR 1902 FREE!

Long-Tongue Variety—Warranted Purely Mated

We have arranged with the queen-breeder who furnished Long-Tongue Red Clover Queen for us during the season of 1901, to fill our orders this season. Although fully 95 percent of the untested queens he sent out were purely mated, this season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most excellent reports from the queens we supplied last season. And this year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

Orders for these fine, "long-reach" Warranted Queens will be filled in rotation—"first come first served"—beginning as early in June as possible. It is expected that orders can be filled quite promptly (even better than the past season), as a much larger number of queen-rearing nuclei will be run. (But never remove the old queen from the colony until you have received the new one, no matter from whom you order a queen).

All Queens will be guaranteed to arrive in good condition, and will be clipped, unless otherwise ordered.

A Warranted Queen for Sending us only TWO NEW YEARLY SUBSCRIBERS.

In order that every one of our subscribers who wants one of these Warranted Queens this season can easily earn it, we will book your order for one queen for sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00; or for sending us *one new* subscription and 30 cents more (or $1.30), we will mail you a queen; or send us $1.60 and we will credit your own subscription for one year, and mail you a warranted queen.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

off the combs for the honey to run out and bedaub the bees.

As you will notice, I use only 9 frames in my hives, but a gauge can be easily made to cover 10 frames.

I make my own staples, as I could not find any to serve the purpose, but I can make hundreds in an hour.

If any of my fellow bee-keepers will try this device they are welcome to do so, and I am sure that upon trial they will agree with me that the gauges are very handy.

CHAS. H. WIELE.

Vernon Co., Wis., April 1.

[The gauge used by Mr. Wiele is a wood strip 14 inches long, 5-16 inch thick, and ⅞ inch wide, having driven into it a row of 10 small wire staples ⅛ inch from one side, the staples being 1½ inches apart.—EDITOR.]

Unfavorable Weather.

In this vicinity, as far as I know, the bees have come through the winter with very little loss, but so far the weather has been very unfavorable for the bees to work; however, everything looks quite promising when the weather warms up. Almost all of the bees are wintered on the summer stands here with the best success.

The honey crop in this vicinity was a little short last year. It was too hot and dry in July, just when clover was at its best, so it dried up. My bees were ready to swarm, when the weather got so hot that they just dwindled away, so by Aug. 1 the hives looked as if they had just come out of the cellar. One bee-keeper, about 4 miles from me, thought that

$5 TO START YOU IN BUSINESS

We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.
DRAPER PUBLISHING CO., Chicago, Ills.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Low Rates to Eastern Points

will always apply via the Nickel Plate Road and its Eastern connections to all points in New York, New England, and the Eastern States. Three daily trains to Ft. Wayne, Findlay, Cleveland, Erie, Buffalo, New York and Boston. Standard equipment on all trains. Meals served in dining-cars, on American club plan, at prices to suit passenger, from 35 cents to $1.00 per meal. For particulars call on or address, John Y. Calahan, General Agent, 111 Adams St., Chicago. Depot, Fifth Ave. and Harrison St. 'Phone Central 2057. 2—18A3t

BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

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his bees had foul brood. I told him it was not that dreaded disease, but it was caused by the bees not having enough nurse-bees to feed the larvæ. I have had the same thing happen with my bees. When the fall flow came on his disease disappeared, and his bees are all right again.

There has been some foul brood about 12 miles from here, but my bees have never had any foul brood that I know of.

JACOB WIRTH.

McHenry Co., Ill., April 1.

CONVENTION NOTICE.

Illinois.—The Eastern part of the Northern Illinois Bee-Keepers' Association will hold their spring meeting at the residence of O. J. Cummings, 2½ miles northeast of Rockford, Ill., Tuesday, May 20, 1902. All interested in bees are invited to attend. H. KENNEDY, Sec.

DO YOU READ
—THE—
Modern Farmer

If not, why not? You get it **a whole year for 25 cents.** Your money back, if not satisfied. **Sample Copy Free.** Get two of your farmer friends to take it a year, send us 50 cents, and **get yours free.** Send their names **for samples.** Address,

MODERN FARMER,
9Ctf ST. JOSEPH, MO.

The American Poultry Journal

325 Dearborn Street, CHICAGO, ILL.

A Journal that is over a quarter of a century old and is still growing must possess intrinsic merit of its own, and its field must be a valuable one. Such is the

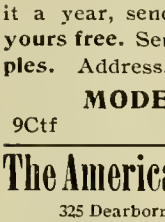
American Poultry Journal.

50 cents a Year. Mention the Bee Journal.

Danzenbaker Hives.

☞ In flat and made up—at very low price. ☜
50Ctf O. C. MASTIN, Trent, S. D.

BARNES' FOOT POWER MACHINERY



Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
995 Ruby St., Rockford, Ill.

Please mention Bee Journal when writing.

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, JOHN THOEMING.

MONTHS	May and June.		
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00
GOLDEN QUEENS			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00

Select tested, $2.00 each, after June 1.
Breeders, $5.00 each, after June 1.

We begin mailing Queens about May 25, and fill orders in rotation. Circular free.

D. J. BLOCHER, Pearl City, Ill.
18Etf Please mention the Bee Journal.

Don't Shoot

Several owners of the "Uncle Sam's Favorite" RURAL MAIL BOX have tested them with a full charge of buckshot, without damage. We do not approve of this, as it might lead to some one trying it on some other make of box, and then there would be trouble, sure.

All tests should be made before the boxes are put in service. Thousands of people are ready to back the "Favorite" against the field. Let us tell you what "they say."

BOND STEEL POST CO., ADRIAN, MICH.

It will be to Your Advantage to ascertain the rates from Chicago to New York, New England and all Eastern points, applying over the Nickel Plate Road and its Eastern connections. Three trains daily, on which there is no excess fare. One feature of service on that road is meals in dining-cars, on American club plan. Pay for what you get, but in no event more than from 35 cents to $1.00. Folders, rates, and all information cheerfully furnished by applying to John Y. Calahan, General Agent, 111 Adams St., Chicago, Ill., Depot Fifth Ave., and Harrison St. Phone Central 2057.

4—18A3t

For Sale. 40 Colonies of —BEES—

mostly Italians. D. C. BUCKSTAFF,
18A3t 149 So. Main Street, OSHKOSH, WIS.

1861 —ADEL QUEENS— 1902

Adel bees the Standard strain. My 1902 Catalog ready to mail May 1. Send for it. Address,

HENRY ALLEY, Wenham, Mass.
18Atf Mention the American Bee Journal.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Apr. 18.—The season in which comb honey sells prior to the new crop is now practically at an end; therefore prices are more or less irregular, as some sections in a case will be grained more or less and others free. The best lots of basswood and clover sell at 14@15c; other kinds of white at 10@13c; ambers are not in heavy supply and sell at 9@12c. Extracted is dull at 5@6½c for white, and 5@6c for amber, depending upon flavor and other qualities. Beeswax scarce at 32c. R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.

THE FRED W. MUTH Co.

ALBANY, N. Y., Feb. 21.—Our market has not been so empty of comb honey in a long time. Fancy white comb, 15@16c; No. 1, 15c; dark and buckwheat, 13@14c. Extracted, buckwheat, 6c. Beeswax, 30c. H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c; Florida honey, in barrels, 6@6½c. BLAKE, SCOTT & LEE.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

CINCINNATI, Apr. 11.—Stock of comb honey here is larger than it ought to be at this time of the year, and this is why it is offered for very low figures. Water-white is sold at 14@14½c and hard to obtain; for extra fancy, 15c.

Extracted finds a steady sale, and amber is sold in barrel lots for 5@5½c; water-white alfalfa sells from 6@6½c, and white clover brings from 6½@7c. Beeswax scarce at 30c.

C. H. W. WEBER.

NEW YORK, Apr. 7.—Comb honey, last year's crop, practically cleaned up, but as we wrote a little while ago we had received new crop from Cuba, and are now receiving new crop from the South. Demand is fair at 14c for fancy white, 13c for No. 1, 12c for No. 2, and 10@11c for amber.

Extracted: The market is decidedly dull. Very little demand, with large stocks on hand, some of which no doubt will have to be carried over, and indications point to a further decline in prices. We quote: White, 6c; light amber, 5½c; amber, 5c; Southern, 52½@58c per gallon, according to quality. Even these prices are shaded in car-lots. Beeswax, scarce and firm at 29@30c. HILDRETH & SEGELKEN.

BUFFALO, April 25.—Market is very quiet. Fancy comb, 14@15c; other grades, 9, 10 and 13c. Extracted, 5@6c; moderate demand. Beeswax, 25@33c. BATTERSON & Co.

SAN FRANCISCO, Apr. 16.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Demand is not very active, and market cannot be termed firm, although quotable values remain without important change. Considerable honey of last crop is now being offered, which up to a few weeks ago had been held off the market. New crop is expected to arrive in wholesale quantity in the very near future.

Fancy Glassed Comb Honey

Any bee-keepers in New York or Pennsylvania producing either White Clover or Raspberry Fancy Comb Honey (in glassed sections), will find it to their interest to write to the undersigned at once.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

BOYS WE WANT WORKERS

Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

Please mention Bee Journal when writing advertisers.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sectinns and New Procesa Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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200-Egg Incubator for $12.80

Perfect in construction and actinn. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

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California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
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Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

European Tourists and Others destined to Eastern points, will find the low rates applying over the Nickel Plate Road to New York, New England and other Eastern destinations, specially attractive. The Eastern terminals via this line are only from three to ten minutes from all ocean steamship docks, and the service afforded is first-class. Three trains daily from Chicago. Uniformed colored porters are in charge of day coaches, whose duties require that proper care shall always be given to keeping cars clean and attending to the wants of passengers en-route. Meals are served in dining-cars at prices that are reasonable and within reach of all. Details cheerfully furnished on application to John Y. Calahan, General Agent, 111 Adams St., Chicago. Chicago City Ticket Office, 111 Adams St. 'Phone Central 2057.

3—18A3t

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Advance in Prices of Foundation...

We quote an advance of **THREE CENTS PER POUND—WHOLESALE AND RETAIL**—in Comb Foundation.

We are much in need of Beeswax, and pay the **HIGHEST PRICES.** Send us all you have to spare, either for cash or trade.

Chas. Dadant & Son,
Hamilton, Ill.

Please mention Bee Journal when writing

THE DANZENBAKER HIVE

The best comb-honey hive on the market may be obtained of The A. I. Root Co., of Medina, Ohio; at any of their branch houses, and many of their local and jobbing agencies. Send to the address nearest you, and save freight, and get quick delivery.

Branch Offices.

The A. I. Root Co., 10 Vine St., Philadelphia, Pa. Wm. A. Selser, Manager.
The A. I. Root Co., - - - Syracuse, N. Y. F. A. Salisbury, Manager.
The A. I. Root Co., - Mechanic Falls, Me. J. B. Mason, Manager.
The A. I. Root Co., 1024 Miss St., St. Paul, Minn. H. G. Acklin, Manager.
The A. I. Root Co., - - San Antonio, Texas. Toepperwein & Walton, Managers.
The A. I. Root Co., 1200 Md. Av., S. W. Washington. Saffell & Herrick, Managers.
The A. I. Root Co., San Ignacio 17, Havana, Cuba. F. H. de Beche, Manager.

Jobbing Agencies.

Geo. W. York & Co., 144 & 146 Erie St., Chicago, Ill.
C. H. W. Weber, - - - - Cincinnati, Ohio
M. H. Hunt & Son, - - - Bell Branch, Mich.
Walter S. Ponder, - - Indianapolis, Ind.
Jos. Nysewander, - - - Des Moines, Iowa.
Jno. Nebel & Son, High Hill, Montgomery Co., Mo.
Prothero & Arnold, Du Bois, Clearfield Co., Penn.
Carl F. Buck, - - Augusta, Butler Co., Kan.
W. W. Cury & Son, - - - Lyonsville, Mass.
The L. A. Watkins Mdse. Co., - Denver, Colo.

Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.

THE A. I. ROOT COMPANY, Medina, Ohio.

GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market. J. B. MASON,
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.

M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.

THE A. I. ROOT CO.,
MEDINA, OHIO, U.S.A.

☞ GEORGE W. YORK & CO., 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

MASSACHUSETTS AGRICULTURAL COLLEGE

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MAY 8, 1902.

FORTY-SECOND YEAR
No. 19.

WEEKLY

APIARY OF W. C. GATHRIGHT, OF DONNA ANA CO., NEW MEX.
—(See page 299.)

CATALOGUE AND
BUYERS' GUIDE No 70
THIS IS OUR ONLY SALESMAN
We have been working together on this catalogue for thirty years. We consider this number to be as near the ideal Buyer's Guide as the world has ever seen. We have done our best and our assistants have done their utmost to tell the TRUTH about everything listed herein
MONTGOMERY WARD & CO.
MICHIGAN AVENUE & MADISON STREET, CHICAGO

This is our Famous Catalogue. It can be found in over two million homes of thinking people. Is it in yours?

Why Not Start Now?

Spring is at hand and you will need supplies of all kinds. If you are a progressive, up-to-date buyer, go slow and place your order where you will get biggest returns for your dollar.

HAVE YOU EVER TRIED MONTGOMERY WARD & CO. *of Chicago? Perhaps you have long intended to, but never knew how to begin. Why not start now? Our Catalogue No. 70, revised for Spring and Summer, is just out, our building is piled from basement to roof with good things—the very best our active buyer could gather in the best markets; every employe in our big establishment is ready and waiting to serve you to the best of his or her ability—just as though you were shopping over our counters. We've been preparing for this event all winter, and believe that there never was a better opportunity for shrewd, active buyers to start purchasing on our wholesale prices—no middlemen—one profit plan. The Spring and Summer edition of*

CATALOGUE NO. 70 IS NOW READY. *Over 1000 pages packed with the good things of life—everything you use—gathered by our buyers from the markets of the world. Page after page of high grade merchandise, all illustrated and honestly described.*

SEEMS TO US THAT YOU OUGHT TO HAVE A COPY. *We want you to have one—so much so that we will furnish the book free and pay one-half the postage if you will pay the rest, fifteen cents. There are so many people in this country bubbling over with curiosity, or trying to get something for nothing, that we are compelled to make this trivial charge. It is only fifteen cents but it assures us that you are acting in good faith and are interested in our business. Why not ask for it today, before you forget it?*

Montgomery Ward & Co., · Chicago

9

Please mention Bee Journal when writing

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get grand bee-book for a very little money or work.

GEORGE W. YORK & CO.

144 & 146 Erie Street, · CHICAGO, ILL

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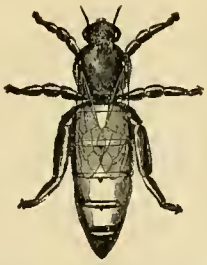

FOR GETTING NEW SUBSCRIBERS.

Red Clover Queens

FOR 1902 FREE!

Long-Tongue Variety—Warranted Purely Mated

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., MAY 8, 1902. No. 19.

Editorial.

Number of Bees in a Swarm.—The number of bees going with a swarm, Editor Root guesses, may be 75 percent of the whole, leaving 25 percent in the old hive. Wonder if others would make the same guess?

Returning Bees to Cellar After a Flight.—This in early spring has been understood to be a thing not to be commended. Possibly it may, after all, be one of those things as to which traditions are not reliable. At least it looks a little that way, according to the following item from Gleanings in Bee-Culture for April 15:

The bees in our bee-cellars have wintered nicely. The larger portion, as will be remembered, were in our home cellar, comprising nearly 300 colonies, and these, many of them, two and three frame nuclei; and yet they came out bright and healthy. One or two nuclei succumbed, but they were very weak.

During the last days of March there was considerable roaring among the bees, and it seemed necessary to quiet them down. Mr. Wardell finally suggested taking them out on the first warm day and giving them a flight, and then returning them. This was done with the bees in both cellars, and the results were eminently satisfactory. In our first test, we took out 25 or 30 colonies that were quite uneasy. We gave them a flight, and put them back, and, presto! they were quiet, while those that had not had a flight were uneasy as before. These were put out, and they, too, became contented.

I believe it has been stated that it is a waste of time and labor to give indoor bees a flight during mid-winter or early spring; but our own experience does not seem to prove the statement.

When we put the bees out in the first place we numbered and marked their location, so that in a month hence, when they are put out again, they will go back in exactly the same places.

Whipping Up the Queen.—One of the things upon which the novice in bee-keeping seizes with especial eagerness is the idea that by some special measures he may secure more rapid laying on the part of the queen, and so have an extra number of laborers when the harvest is ready. One way in which he attempts this is by what is called stimulative feeding, or feeding a certain amount every day, or every other day, so as to imitate to a certain extent a natural flow. If this is done at a time when the weather is cold, wet, and windy, it will almost certainly result in loss, for it will start the bees to flying out. If done at a time when the weather is warm and bees are flying all day long, doing at least a little at gathering natural stores, it can hardly make any increase in the queen's laying, for such times the queen is already laying freely. If at a time when the weather is continuously warm, yet no flowers yielding, the dearth continuing sufficiently long to stop the queen's laying, the feeding may be a good thing.

Another way by which increased laying is sought is by making such change in the position of the brood-combs as to bring an additional number of empty cells within the brood-nest, usually called brood-spreading. This matter is quite fully discussed by Mr. Doolittle on page 247. The fear is that the beginner will pay too little heed to the dangers mentioned.

Still another way advocated by some is to reverse the position of the hive and all its contents, making the front and back ends of the hive change places. The reasoning is that bees naturally prefer to have their brood close to the entrance and the honey at the back end, so when the hive is reversed the bees hasten to bring the brood again to the front. In this plan there seems little chance for doing harm.

The probability is that beginners have an exaggerated estimate in nine cases out of ten of the gain that can be made by any interference. Many seem to have an idea that brood-spreading and stimulative feeding will in all cases result in an increase of brood, whereas either one may have the opposite effect. Even in the hands of the most experienced it is not certain that gain can be made in every case. What possible gain can be made in a case in which a colony is carrying already all the brood it can cover? Before whipping up your queen make sure that she is not already doing her best.

Maeterlinck's Book seems to be judged quite differently by different minds, both in this country and abroad. By some it seems to be considered as rather a bad book, by others as of mixed quality, and by still others as of faultless beauty. This appears in the American Bee-Keeper:

There are one or two among us to whom the beauties of Maeterlinck's delightful book are overshadowed by the trifling inaccuracies which are but the imprint of humanity.

And this in the British Bee Journal:

I should say that the greater portion of his figures are open to criticism, and this is a circumstance the more to be regretted, inasmuch as the work is one that is evidently obtaining a wide general circulation. What, for instance, is to be said of statements that convey such ideas as the following?

1. That the common size of swarms is from 12 pounds to 14 pounds (page 38).

2. That bees on swarming commonly leave behind them a compact mass of honey and pollen reaching about 1 cwt. (page 39).

3. That drones visit and sleep on the nearest flowers (page 287).

4. That the queen bears in her flanks close on two million lives (page 84), etc.

Such statements might be multiplied almost indefinitely, but I think the wildest flight of poetical license, or whatever it may be, is reached in the following, with which I conclude, although I can not pretend to be quite certain of the author's precise meaning:

"……immense fields of flowers that have been visited daily one or two thousand times" (page 293). Does M. Maeterlinck really mean to saddle our poor little servant with the task of a laborious journey during every half-minute of a long summer's day?

Sulphur Smoke and Black Brood.—In European countries there are frequent reports of foul brood and kindred diseases being cured with drugs, but in this country little reliance is placed upon anything of the kind. It has been suggested that across the water bees are more nearly immune to the disease because it has existed there for a longer time, and so drugs that are not effective here may succeed there. In Gleanings in Bee-Culture T. F. Bingham reports what may be a possible cure with the fumes of sulphur. He says:

Mr. Hetherington was at my place, and I wished to show him my first buckwheat colony. When opening it we found a non-laying queen and a few black, dead larvæ scattered at intervals among the empty cells when, evidently, the brood had just matured. Mr. Hetherington said there was no doubt that the dead brood was such as had made trouble in eastern New York. It filled the description given in the journals so far as we could decide. I told him I would try an experiment, and watch results. I gave them an unfertile queen five days old; and when darkness came I smoked the bees thoroughly at the entrance and at the top of the hive, and at the two joints between, with pure sulphur smoke. The following night I gave them the same treatment, but stopped the exits from the hive and compelled the bees to stay awhile. Just as the young queen had begun to lay, Mr. H. was again at my place, and, of course, we examined the first prime buckwheat swarm to see if the combs had still in them evidence of disease. Nothing could have been cleaner or in better order. The question, so far as cleaning out the few dead larvæ was a factor, was complete. One factor, however, remained; viz., would the disorder develop again? I kept watch of the brood, and nothing could have been finer or more abundant. The queen laid abundantly till the flowers failed, and no signs of weakness or dead brood appeared.

The query will naturally arise, "Was the sulphur smoke the cause of the change?" The reason I have given this experiment publicity is because I am not likely to have an opportunity to test the experiment again; and while I do not like to say much, based on a single experiment, others may find it of value.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 277.)

It was decided that the secretary be authorized to send the necessary amount to the General Manager of the National Bee-Keepers' Association to pay the dues for all the members of the Chicago Bee-Keepers' Association.

THE ILLINOIS PURE FOOD COMMISSION.

Mr. Patterson—The bee-question is certainly a new subject to me. I remember when I was a boy on the farm I had a little experience I never forgot. The only bee-factory I have visited during my time in office was yesterday, at Mr. Wheeler's place, and he entertained me very well on the subject of bees. I heard a good deal of talk from him on foul brood and other matters pertaining to bees. It seems to me that the Pure Food Commission and the bee-people of Illinois should work hand in hand in all these matters. That is, there is no organization in my opinion that ought to be so thoroughly organized for the purity of goods as the bee-people, because if anybody is producing pure goods it is certainly the bee-people, and the only question that we had up before the commission was a car-load of extracted honey coming from the West, and we found it adulterated. I seems to me all the bee-people of Illinois would certainly be in favor of and willing that honey from other States should be tested, that in our own State not being adulterated, because adulteration would naturally decrease the production of honey. I want to say right now for the Pure Food Commission, that we would be very glad to come in contact with all of the bee-people. I intend to visit a few of the bee-keepers, but will not have much time now to do that, but I am so glad to see so many interested. I didn't have any idea there were so many bee-people in Illinois. As I said before, the only one I ran across was out at Plano.

Dr. Miller—There is another one besides those here! [Laughter.]

Mr. Patterson—It is certainly a great subject, and it is a great industry. Nobody likes honey, and pure honey, as well as I do, and I think if you all stand together as you are here, eventually honey will go up. I understand that honey is lower now in price than it has been for years and I don't see any other reason for it than the adulteration of honey. There has been a little mistake in the press upon the interview of our Commissioner about honey. You know as well as I do, that a reporter always endeavors to make a startling article on almost any subject of adulteration, and they say what they please. Some one said to me, "I saw a cartoon in one of the papers of one of the men out in the country adulterating comb honey." We can't stop those things. We are trying to bring about an honest condition, and that is surely your purpose. I will endeaver to have our chemist come and speak to you tonight. I assure you any question you ask the Commission will be welcomed, and we would be very glad to consult with you on any subject pertaining to honey.

Mr. Dunn—Can you, as an officer, visit the glucose factories?

Mr. Patterson—Yes, sir. That's another matter. There was some little honey in our last report that we found adulterated. One man I talked to had bees near the glucose factory, and he claimed they brought the glucose into the hives and thus naturally adulterated the honey. I don't know whether that is so or not, as I am not able to say. The law gives us the right to visit anything in the way of products, eatables or drink, in Illinois. I want each and every one of you who knows some one who is adulterating honey, and selling it as pure honey, to notify our Commission, and we will be glad to look into the matter thoroughly. We hope to have your co-operation in all this work. I thank you.

Mr. Dunn—Mr. Patterson, have you assistants to canvass this city thoroughly?

Mr. Patterson—We have only six inspectors for the entire State, and we have a chemist and his assistant, and a Commissioner, and his assistant.

Mr. Dunn—Have you force enough to be able to inspect this city thoroughly?

Mr. Patterson—Now, you know our six inspectors cover our entire State, and we have a good many complaints from different points, about different products, and when a complaint is filed we look it up. I am sorry we don't have more inspectors.

Mr. Dunn—What action can this organization take to give you the force required?

Mr. Patterson—Anything upon the line of this investigation, or to increase our force, would be a great help to us.

Mr. Dunn—Does that come from Congress?

Mr. Patterson—From the State.

Mr. Dunn—How many assistants would permit you to canvass it thoroughly?

Mr. Patterson—I think an inspector for every Congressional District would cover very thoroughly throughout Illinois. I know as we are now we are busy night and day with every inspector we have. We have so many complaints, and our chemists have so much to do, we can't possibly cover the ground.

Dr. Miller—I think we will always agree with the statement of Mr. Patterson that bee-keepers do not desire adulteration. There has been enough of it to injure us very, very seriously, and there is another thing which runs side by side with that, and that is, to get the public to believe that there is adulteration. It doesn't make any difference whether it is true or not, when you get the public to believe there is adulteration, you have injured the sale of our product to an extent that cannot be gotten over for a long time.

Pres. York—Are you talking about comb or extracted honey?

Dr. Miller—I don't care what it is, whether comb or extracted. Here is the condition that faces us right now. Here is a statement made in a reputable paper that one of the Pure Food Commissioners has said that there is scarcely any genuine comb honey; that it is nearly all adulterated, and that unless you see the brown coloring on the comb—what we bee-keepers call travel-stain—it is not pure! I am not bothering about what foundation they had for that, but I do know the result of what Prof. Wiley did years ago. I believe we have the impression now that the Commissioners are the ones that can do a great deal to help us as bee-keepers, and I believe that they will as gentlemen, do this, for if there has been anything said by them to give any foundation for the statement made in the papers, I believe they will, over their own signatures, in the same public manner in which the statement was made, say there is no foundation for it.

Mr. Patterson—I know positiveiy we never made such a statement. The reporters, as a rule, use their own language and say a great many things that should not be said. Of course, this adulteration would come under the observation of our chemist, and that there was certainly some adulteration, especially in that one sample, and a reporter naturally takes that one and says all. You know the Commissioner, and no man of any sense, would say that honey was adulterated, or any other product, because he would be saying something that was not true. I would say that Commissioner Jones would be very glad to confer with you, or a committee, upon the subject. He said to me he never made such a statement, and he is particularly interested in the bee-interests, as he lives in a part of the country where there is a good deal of bee-raising. We are trying to bring about a condition that will meet with the approval of everybody that is honest and fair, and have put upon the market that which is labeled. If adulterated, mark it adulterated; if pure, mark it pure; and if they say it is pure let them invite inspection.

Dr. Miller—I believe Mr. Jones is a friend of the bee-keepers, and desires nothing but what is right. There is no need of any consultation of any committee. There is a statement made that is either true or not. Now, if it is not true, and there is no foundation for it, Mr. Jones, as our friend, will, over his signature, say that there is a slander, and we, I think, are entitled to just that much. If there was any foundation for it, that foundation was wrong. If anything was said that ought not to have been said I have confidence in Mr. Jones as a gentleman, to believe that he will withdraw whatever he may have said. We must remember that every man doesn't know as much about the business as you and I who have spent years at it; and a Food Commissioner might make a mistake. He may have said something that he wasn't authorized to say. As a gentleman he will withdraw that. That much I do believe we ought to ask. If some statement of that kind is not made I shall be disappointed in Mr. Jones. That should be said, and very plainly, and in as public a way as the statement was made in the papers. We are entitled to that much, and I believe we will get it.

Mr. Dunn—I move, as the sense of this convention, that Mr. Jones and his assistants be requested to state the facts, the truth, and nothing but the truth, for publication and correction. Mr. Jones can't take cognizance of anything that takes place in the newspapers, but we want an authentic report from him that those statements are incorrect so far as they go. He should give it currency all over this State. We only want him to give us the truth. Let him state what are the facts. Let him speak broadly what is pure honey. Give the public to understand what pure honey is. I move, as the sense of this meet, that we request Mr. Jones on behalf of the honest men interested in honey-production to state the broad facts for the information of the public.

Dr. Miller—Whilst I said what I did, I believe I am opposed to that motion, as I believe Mr. Jones is a gentleman, and I believe it isn't necessary. I believe we will get the right thing. Mr. Jones wants, I believe, to do what is right in this matter, if it were necessary to call his attention to it. He knows of it. The thing is fully known, and if he needs any instruction upon it, it is simply to tell him this: Here we have been for years offering premiums for the whitest and best honey that can be produced, and then you come in and tell us it is adulterated. I don't think it is necessary to pass that motion. I believe I would rather let him do something on his own hook.

Mr. Dunn—I want to give him some reason for it. We ask him as an organization, to state the facts for the public.

Mr. Moore—One thing mentioned in Mr. Patterson's address seems to me ought to be further taken up. This question of adulterating comb honey will not down. There is no such thing as artificial comb honey. It is impossible. It was put in this way, as to the question of glucose being carried into the combs by the bees. That I understand cannot be done. It is impossible and impracticable. Mr. Grabbe, one of the best known bee-keepers, said he was hired to make comb honey out of glucose and other materials, and he made other experiments on 300 colonies of bees, and the result was their entire death and destruction—poisoning by the glucose, lack of sweetness, or lack of food for the bees. I am satisfied myself that it cannot be made a success, whether it is made one way or the other, by the aid of the bee or not. I am perfectly clear, and I think the Pure Food Commissioners ought to know that artificial comb honey is out of the question altogether. Comb foundation is an article of industry: tons of it are made and sold by some of our best known bee-men. Some think if you can make comb foundation you can make the complete comb. It simply boiled down to this: It cannot be done; it isn't done. One man might go to work and make something that would be a sort of counterfeit, and that which is done and found in the market is altogether a farce.

Mr. Dunn—We are speaking for the State of Illinois and county of Cook, and we have a right to speak by the organization en masse, because they will require Mr. Jones to reply. I want something practical, and I want the response as coming at the call of this Association, that he shall put in black and white what is the truth.

Mr. Moore—At the time Mr. Jones was before our Association, a year or so ago, he was heartily in favor of all our work, and called upon us to co-operate with him, and it seems to me that this is a little in the light of "You don't know your business." I am afraid it won't be taken well.

Prof. Eaton—(Chemist of the Pure Food Commission)—It will only be about half a month before our report is out covering the work of the entire year in which every sample of honey we have taken in the market will be reported on, and full analysis given of pure and adulterated, and at that time I will probably give a resume of the work of both this year and previous years, and the work done for the Chicago Bee-Keepers' Association, or rather, the National Association. Most of you know that Mr. Jones will be only too willing to do anything in his power to correct the wrong idea that has gone out through the newspaper interview. These newspaper reports are not very accurate.

Pres. York—There are some reporters in the room, and they will please take notice of what is being said!

Prof. Eaton—It would be a hardship on anybody, to be held strictly responsible for everything a newspaper reporter says. To be called to task in this way would not be very pleasant, and I hardly think it is due Mr. Jones, particularly considering what he has done for the bee-keepers' association, and the interest he has always taken in pure honey. I have no doubt at all that if you go to him in an official capacity and present the matter to him that he will take every step he can to correct this matter.

Mr. Dunn—I trust that no gentleman in this audience will suppose that I want to reflect on the Commissioner. Mr. Jones has allowed this thing to go uncontradicted. It is the duty of this Association to bring that to his notice. It is the duty of this organization to report, and they should appoint a committee to-day to answer that article also. Let it go forth from this Association also that no one wants to reflect on Mr. Jones. On the contrary, I feel friendly toward him. They must not be so thin-skinned as to take offense.

Mr. Horstmann—My idea was to go at Mr. Jones a little easy. I believe if we left it in the hands of Dr. Miller it would be settled. I have every confidence in Dr. Miller settling it to the entire satisfaction of us all.

It was moved and seconded that the whole matter be indefinitely postponed.

Pres. York—I have no doubt the representatives of the Commissioner who are here will report this all right. It may have the desired effect, anyway.

Mr. Dadant—I would like to speak to Prof. Eaton, the chemist. When there is any adulteration we want to prove it. We don't want our friends to hurt us in their names, when it is said here: "Commissioner Jones says it is comparatively easy for a purchaser to detect the imposition. 'Genuine honey,' he declared, 'has brown coloring around the cells. Glucose honey is perfectly white. The purchaser can detect the fraud by this simple rule.'" If he did say it, he certainly will correct it. We want to warn him of the mistake of Prof. Wiley, of the United State Chemistry Department, who did us the greatest harm in the invention of the story that people could make comb, put the honey in it, and seal it over. He called it "a scientific pleasantry." But it prevented the sale of pure honey. Since the story was invented and reported all over the United States, hundred of persons have come to our comb-foundation factory and asked to see the honey put into cells and sealed over. Of course they go home very much disappointed. We make comb foundation and want to make it as near to the bee-comb as we can. I have told a great many people, something that has not come to the thought of many of you—an answer for you to give to those who say comb honey is manufactured. In this age of progress you don't know what they will invent to morrow. There are no two leaves in the woods that are alike, and no two combs of honey are alike, but if man made comb they would be alike. You might have two or three different patterns, but they would be alike. Remember that, and tell it to your friends who say you can manufacture comb honey.

Mr. Dunn—I move you now as the sense of this meeting that we ask the Legislature, through our representatives all over the State, to furnish the additional help required by these gentlemen—one inspector for each congressional district.

Dr. Miller—I would like to ask, either Mr. Patterson or Prof. Eaton, whether that, in their judgment, is a desirable thing.

Prof. Eaton—Well, I don't know but what it might be a desirable thing if the other branches of the department were placed on an equality with the inspection. If you expect to keep as many inspectors as that busy, you will have to get more than one chemist.

Mr. Dunn—I move we amend the motion by adding additional chemists.

Dr. Miller—Then I would like to ask this question, in order that we move intelligently, because the Pure Food Commission understand this more fully than any of us. I would like to know whether Prof. Eaton can give us the view of the Commission as to the desirability of having these.

Prof. Eaton—I have not talked with Commissioner Jones upon the matter. You heard what Mr. Patterson had to say as assistant commissioner. I would say there is no State in the Union that has more inspectors than the State of Illinois. Minnesota has but six, Wisconsin but two or three, and one of those in the dairy department alone; New York has vinegar inspectors but not more than six all told. In fact, six inspectors is the largest number in the food commission to my knowledge in any State. Six inspectors, if they inspect nothing but food all the time, and doing nothing else but buying samples for analysis, could keep many more than that number of chemists busy, because it takes much less time to buy sample of food than it does to analyze them. Those are my own views. I can't speak for Commissioner Jones. Inspectors can do other things. They act as detectives. They can visit creameries and apiaries. It may be that more inspectors than six would be desirable.

Dr. Miller—That being the fact, and I suppose it is, that Illinois is up to all other States in their force?

Prof. Eaton—We haven't as many chemists, but we have as many inspectors as any other State.

Dr. Miller—There is then just this little danger in the matter. While it might be a very desirable thing to have

more, you know how the legislature is. If they asked, the request is not likely to be granted. Now you are asking what isn't done in any other State. Then we are only weakening our chances for getting something else we might ask them for. I don't know, possibly it may be all right, but unless we are pretty sure of having our request granted, we better not make any.

Mr. Dunn—I predicated the resolution on the statement he gave us. He said they could be used, that they didn't have force enough. The mere fact that other States are not doing their duty is no reason why Illinois should not. We all have our representatives. I don't see any objection to asking it, even if we are refused, even if we can't get so much more additional help.

Mr. Sylvester—Not that we say anything to the legislature, but labor with our representatives to ask for it. There could be no harm in that.

Dr. Miller—Let us understand which way it is.

Mr. Dunn—I want it both ways.

Dr. Miller—That this body as an organization should ask the legislature.

Mr. Dunn—And also that we see our individual representatives and get them to work for us.

The motion was then voted upon and carried.

(Continued next week.)

Contributed Articles.

Length of the Bee's Tongue vs. Hustle.

BY "OLD GRIMES."

THIS discussion of late about improving the length of bees' tongues is not devoid of interest to "Old Grimes." And the boys and I have had several warm discussions over the matter. The boys, like all boys, are inclined to start out after new things. I have held them in on quite a number of things that have in time proved the Old Man's wisdom. But in this long-tongue business there is some danger that the whole crowd will stampede after it.

When I was a boy I was taught to have respect for David Crockett's maxim, "Be sure you are right, then go ahead." Now there are no indications in sight that the long-tongue fellows are right, and the indications are mighty slim for coming in sight for many years.

To me, the little bee seems to be a well-balanced insect, and it is, we might say, a little air-ship. Now, to increase one part without increasing the other parts, the bee loses its balance and more is lost than gained. Let us look into the matter a little.

There have been several articles recently in various bee-periodicals by Simpson, Getaz, and Miller of Rhode Island, all of whom are more or less versed in the science of breeding of animals, and none of these writers seem to be in haste to demonstrate that the long tongue is a fixed or desirable feature.

These gentlemen cite instances where in-breeding has produced variations, but every time it is at the expense of some other feature, and, if carried too far, results in diseased conditions. Witness the silk-worm and the dire financial results following from a too scientific breeding.

Our domestic animals and fowls show much variation from a wild to a domestic state. The hen in the wild state has more wings and less eggs, but by civilizing it gains in eggs and loses in wings.

The good, docile work-horse is a good-enough animal for most of us, but bred for racing he loses his sturdy qualities and becomes what we might call a "dude" in horse-flesh.

Examples might be multiplied, but these are enough to show without much scientific reasoning, that to breed for one good point many others are sacrificed.

In the bee the breeding for long tongues may result in the loss of wing-power, or some other greater weakness. And I find myself inquiring as to how far, and how many of the recent diseases of the bees can be traced to our modern methods of breeding.

It is a fact that when I was a boy my grandpa kept bees in the log-gum; they had their own sweet will about breeding, and there were no diseases in those days.

The modern diseases have come trooping along, one after another, and the end is not yet, and all since the breeding of queens commenced. Has not the breeding for certain qualities, or the mixing of races, weakened the bee in certain qualities, or torn down its defense to diseases?

Our enthusiastic advocates of long tongues cite the gathering honey from red clover as an indication of their value, but there is no positive demonstration that such is the fact. I have seen black bees work quite freely upon red clover. This red-clover work is always done in hot weather and under conditions when honey is secreted rapidly. The nectar wells up in the flower-tube to an unusual height, and the hustling bee, either long or short tongued, soon finds it out.

There are a few points in relation to bees that can be demonstrated any day in the working season, and one of them is that the hustling colony is the one that gets the honey. And there are various ways to make them hustle without tampering with the queen. The moving of several colonies to a new location will give them this desirable feature, provided, of course, that there is honey to gather. All know that a natural swarm is a greater hustler than an artificial one, but still an artificial swarm can be made to hustle if it is given a large amount of brood.

It is the great army of bees that load the hive with honey, and here is where the most prolific queen is of the greatest service, for a queen that lays an abundance of eggs will surely preside over a hustling colony.

It is only a step from a hustling colony to a hustling apiary. Bees in an apiary of weak colonies do not go far for honey. I doubt if even a few strong colonies send their bees far afield. But a large and strong apiary—what an inspiring roar is borne to your ears upon the morning breeze! They will find honey if it is 4, 5 and even 7 miles away.

"Old Grimes" would not disparage experiments; they are legitimate in any line of work. But let us experiment until we demonstrate, then give it to the world.

Marconi came over quietly to Newfoundland and set up his tickers; when he recognized the ticks from across the ocean he had something to demonstrate.

The long tongues may just now have the innings on paper, but the hustlers are still on deck for profitable crops of honey.

Perhaps I will tell you some time how to get a big hustle into a small apiary.

[If "Old Grimes" is going to tell how to get that "hustle into a whole apiary," he'll have to "get a hustle on" himself soon, else it will be of no value this season. We are ready to furnish the paper on which to put it first!—Editor.]

The Use of Smoke in Controlling Bees.

BY T. F. BINGHAM.

I note this on page 123, "By all means avoid the use of smoke as much as possible."

The above remark was undoubtedly made from habit, not from any evidence demonstrating its reasonableness. It is of no consequence except as it conveys an answer to a query, and gives no reason for the answer. The fact of bees filling their sacks with honey and emptying them when they please does not imply that Nature has made a mistake in implanting in the hive-bee the instinct to fill said sacks when frightened, or from flowers. This instinct is all—yes, the only one on which modern or civilized bee-keeping is rendered possible.

Fright applies to all insects alike and in common. The rude log-cabin of the pioneer has its kettle of smoking chips to keep away the troublesome mosquitoes and other winged insects from its door; but to the hive-bees are given this special instinct to cluster, to huddle, to protect their home, and fill their honey-bags against a possible day of trouble.

I do not write about this subject because it is new, but because it is so oft-repeated without the shadow of evidence of proof. It seems handed down as superstitions usually are.

It has cost the lives of people and horses, and made the bee-keepers' union a necessity among superstitious bee-keepers.

The Creator made no mistake in fixing up the pale, hatching worker with all the instincts for its own and its colony's preservation without experience and choice of methods.

We say the reason why the bees do this and that—when no fact is so patent as the one that bees know as much when they gnaw open the cap that has protected in their

cells as they ever will, of what is of value to them individually or collectively.

Bee-keepers all over the land have smoked bees in and out of hives with all sorts of fuel—sulphur, tobacco, cotton-wood, puff-ball, etc.—and have never said that the bees were injured by any of these materials. Of course, every one will lift up the voice in holy horror at the sulphur smoke for bees, but sulphur smoke will not kill bees any more than tobacco; neither of them hurt bees if allowed a few hours exposure to fresh air. The fresh air restores them and smoke does them no enduring injury.

It will be well for all bee-keepers to bear in mind that statements are frequently made by bee-keepers more destitute of facts to prove them than much of the newspaper-talk we hear so much about. The fallacy of smoke consists in the lack of enough of it at all times. In an emergency a bee-keeper has no time to light matches.

In the handling of bees one may not at all times need to smoke them. But I would rather start out hunting without a gun than go among my bees without a cloud of smoke around, and within quick and easy reach.

If it was well understood by everybody that bees would not sting or proffer an attack away from their near-by home, or unless pinched, one senseless superstition would have disappeared, and happiness not common with inexperienced people would be realized.

Bees that are to be moved will fill their sacks without smoke just as if smoked. One has to consult his own convenience.

He will find smoke, reasonably used, will save the lives of individual bees and be of great convenience.

Men have shown their vanity and ego in words like this: "My bees never sting me; I can take them by the double handful. Bees are all right, they need to know their master." The safety of the community lies in knowing that the bees do not know anybody or anything, and that if proper care is taken of them, and you have no superstitious neighbors, you will also have no trouble.

Clare Co., Mich.

Rapid Increase of Colonies in the Spring.

BY G. M. DOOLITTLE.

THE past winter has been very serious with us, and from my correspondence I find it also has been so in some other parts of the country, so there has been quite a loss of bees. For this reason I am receiving enquiries regarding the feasibility of a rapid increase of the colonies remaining, in order that the combs from the lost colonies may be stocked with bees again, as quickly as possible. As it is quite a task to give a full answer to a score or more of people by private correspondence, I have told these that I would give an article in the American Bee Journal on the subject, and have referred them to this article, which I trust will appear in ample time for their use.

After trying everything I have ever heard of for a rapid increase of colonies, I prefer the nucleus-box plan to any other, for the purpose. To use this building-up process, all want one or more boxes similar to one of the shipping-cases used in sending section honey to market, only having wire-cloth sides in place of glass, and a hole in the top which will admit a funnel large enough to shake the bees from the frames down through, the same as is used in putting up bees by the pound. This large hole in the box should have something like a door to close it with easily, and one of the wire-cloth sides should be tacked to small wooden strips, like a slate frame, and thus made easily removable. All about how to make these "nucleus boxes" has been given by myself in back numbers of our bee-papers, but the above "brief" will enable any one to make it, if not able to turn readily to one of the former articles.

As early in the spring as you can do so without loss by cold spells, begin to stimulate the very strongest colonies you happen to have, by spreading the brood and feeding, as I have given on page 246, so that one or more of these colonies may swarm early, thus giving you queen-cells; or, what is still better, have these strong colonies build queen-cells by the plan given in my book, "Scientific Queen-Rearing," so that you can have plenty of queen-cells to use as you wish them, if you prefer to rear your queens to purchasing them. Having the queen-cells nearly mature, or having queens on hand by purchase or otherwise, go to any of your colonies that can spare bees without damaging their building up as fast as you desire, and take out two frames having to the amount of one-half pound of bees on them, being sure the old queen is not on these combs. Set them down in an empty hive, or on the outside somewhere, and tap gently on them so as to cause the bees to fill themselves with honey; and as soon as they are filled shake them down through the funnel into the box, removing the funnel and closing the door or hole.

While the bees are filling themselves with honey, you can go to other colonies and take out the frames of bees from them, and thus keep things moving right along, instead of waiting as you would if there is only one colony in the apiary.

Having the bees in the box, return the combs of brood to their old place in the hive, marking the one having the most emerging brood, so you can get it in a moment when wanted. Now set the boxes of bees in a cool place, where there is little light that will come to them, and leave them till near night—just time enough so you can finish your work before it becomes so dark you cannot see.

At the right time—a little after sundown—go to the hive from which you took the bees, take the marked comb, shaking the bees which are on it in front of the entrance, and put a frame of comb from which the bees have died, in its place. Now take the comb of brood and a frame of honey, left from the dead colonies, and place them in a hive where you wish a colony to stand, putting in a division-board so as to make a small hive for the two combs. Now go to the hive having queeen-cells, and, taking one of them fit it into the comb having brood, placing it near or at the upper edge of the brood, where it will be warmest; next close the entrance to the hive; get the box of bees, and put it with the funnel-hole next to the combs. then open the door over the hole, and if the box is within three-eighths of an inch of the brood, the bees will immediately run out of the box on the combs.

As soon as they begin to run out, close the hive, and the work is done till the next morning, when you will open an entrance large enough for three or four bees to pass at a time, on the opposite side from where the two combs stand. Then toward night of the same day you will take out the box and adjust the division-board, when you have a nice little swarm or nucleus started in that hive.

As soon as the young queen from the cell given gets to laying, you are ready to insert the combs from the dead colonies till the hive is filled, giving the combs, one or two at a time, as fast as the bees can occupy them.

In the above I have given the way of making one little colony, and you can make as many and as often as you have colonies that can spare the bees, and have queen-cells to give them, using about half a pound of bees for each colony made during the month of June, one pound during July, and two pounds during August. Where we have plenty of combs to use, there should be no trouble in making ten colonies from one old one in the spring, if said colony wintered through fairly well, as I have repeatedly proven.

If you prefer to purchase queens, instead of rearing them, then you will proceed the same as above given, but instead of doing anything about putting the bees in the hive at night, you will place the queen in a provisoned cage, go to the box of bees, and, by setting it down suddenly on the floor, drop all of the bees to the bottom, quickly open the door and hang in the caged queen so the bottom of the cage nearly touches the top of the box, when the bees are left till the next morning, the hive fixed as before, less the queen-cell; and, instead of opening the funnel-hole for the bees to run out of it, the movable side is taken off, and the bees hived like a swarm, releasing the queen from the cage so she can go in with them.

In this way I have made hundreds of little colonies and nuclei, and there is nothing that pleases me anywhere nearly so well for the purpose as this. But, if any one thinks otherwise, then let the colonies left after a bad winter, swarm as fast as they will, and six days after a swa rm issnes from any hive, divide the old colony into nuclei, using two combs with bees, brood and a queen-cell to start a separate colony, and build up these nuclei with the combs not occupied with bees, the same as by the first plan, after the young queen is laying. In this way I have succeeded in making from five to six good colonies by fall from one good colony in the spring, and in good seasons obtained quite a little surplus from the new swarm.

Onondaga Co., N. Y.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

Association Notes

By EMERSON T. ABBOTT, St. Joseph, Missouri,
Gen. Mgr. of the National Bee-Keepers' Association.

Extracts from Letters.—"The writer begs to extend congratulations and sincere well wishes."—H. E. HILL, Editor American Bee-Keeper.

"Permit me to offer my hearty congratulations on your election to the office of General Manager of the National Bee-Keepers' Association. Mr. John Froliger, who is a member of the advisory board of this company, joins me in the same. We know that the affairs of the Association are in the proper hands. We wish you a successful term. If I can be of any service to you in the affairs of the Association in this city, do not hesitate to command."—FRED W. MUTH, of Ohio.

"Accept congratulations for your successorship to General Manager Secor. May success lie in your pathway."—F. W. HALL, of Iowa.

"I am glad to see that the Association has an energetic manager, and hope you will have the time to spare to keep its affairs in proper order. I should like to know where I can get information in regard to keeping bees on the public highway in the State of Illinois."—C. F. BENDER, of Illinois. Who can answer this question?

"I hope you will receive all the support necessary from the members of the Association, to lessen the duties of the office now imposed upon you. Co-operation we must have to maintain the honor and usefulness of the Association."—JOHN W. LYLE, of Nevada.

"In the earliest days of the Association I was a member, and now desire to take it up again."—L. A. PENNOYER, of Minnesota.

"If necessary to make an assessment of one or two dollars to fight this spraying-of-the-open-blossom business, my assessment will be ready any time you want it. That man Williams ought to be pulled out of the hole without any regard to the cost."—RALPH B. DAILEY, of New York.

The Important Thing just now engaging the attention of the General Manager is the subject of spraying fruit when in bloom. He had mailed to him a circular letter issued by William Stahl, in which is advocated spraying when in bloom. This circular gives the testimony of 15 or 20 people who say they have tested the matter. The General Manager wrote a letter to each of these persons, asking him for further information, and requesting him to explain fully why he thought it a good thing to spray when in bloom. Up to this time only two have replied. One of them shows clearly by what he says that he has been spraying blindly. The General Manager will have more to say about this in future notes. We quote an extract from another letter which will explain itself:

"Replying to yours of the 19th, I will say that three years ago I sprayed my fruit while in bloom, and I did think at that time that it benefited the trees. However, that was the first time, and, also, the last time I sprayed my trees while in bloom. Now, I do not intend to do it any more. I can not say if I am quoted correctly in Mr. Stahl's circular, as I have not seen one. I wrote him something about it at the time, but do not remember just what I said. However, I will say to you that I am too fond of *bees* to do anything to kill them."—E. CHAPELL, SR., of Michigan.

Membership Dues still continue to come in, but there is yet room for many thousands more. Have you sent in your dollar? If not, do it now.

The Sweet-Clover Bill, in Ohio, is probably safely pigeon-holed for good, writes Secretary Mason. We congratulate our Ohio friends on their successful campaign against this bill. All that is needed is energetic work on the part of the bee-keepers of the United States, and in a short time the busy bee will be recognized as having some rights in law, as well as elsewhere.

Sweet Clover Bulletin.—The General Manager is in receipt of a letter from Prof. Frank Benton, in which he says:

"Your letter of April 19 [to the Secretary of Agriculture], in reference to the growing of sweet clover, has just been referred to me for reply. I went immediately to the Agrostologist, and, not finding him there, consulted with his first assistant regarding the issuance of a bulletin on sweet clover. He seems to think the subject might warrant something of the kind. I think that a candid discussion of the subject, giving, so far as possible, all phases of the matter, would place it in its right light, and our interests, as well as the farming public in general, would be benefited thereby. I shall see the Agrostologist himself, and endeavor to bring the matter to a point as soon as possible, and then report to you further."

The General Manager is very glad indeed to have the co-operation of Prof. Benton, and he wrote him at once to urge him to look after the matter, and do what he could to secure a fair and candid discussion of the subject by some government official, who will give both sides of the question. Prof. Benton is in a position to aid the bee-keepers in many ways, and we are glad to have his co-operation.

E. T. ABBOTT, *General Manager.*

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

ROBBER-BEES STINGING OTHER BEES.

One competent observer, S. T. Pettit, of Ontario, reports on the robber-bees. They sometimes sting the bees they are trying to rob, but quite rarely. Page 191.

QUOTING THE HONEY MARKET.

Anent page 95, it is easy to see that the dealer who buys honey outright, and also deals on commission, and also furnishes quotations for the bee-papers, is *tempted* to quote a little too low, whether he yields to the temptation or not. Furthermore, it is easy to see that the rascal who deliberately intends to skin his consignors alive, is tempted (if that's a proper word for him and Satan) to quote prices a good deal too high.

Low quotation? Honest coon.
Scoundrel—prices to the moon.

EVERYBODY KEEPING BEES.

Yes, Mr. Wisconsin, we are not anxious to have our neighbors dip into keeping bees; but if we refuse to sell them any it will stimulate their determination to have some—as well as lower our own standing. Offer them swarms the next swarming season, they to send you the hives to put them in. Let the rates offered be reasonable. The chances are that they will not actually send the hives. Page 196.

PUTTING UP THIN HONEY.

I expect (but if you're a rogue, and want to do it, don't read this) that if thin honey be heated and put in air-tight condition before it begins to ferment, the fermentation will then be slight or lacking until the package is opened. But I don't believe a wooden barrel can be depended upon for any such results. Page 197.

CLIPPING THE WINGS OF QUEENS.

That's a good record, Miss Wilson, if with all the queens you have clipped in a large apiary for years you have never found a queen with 5½ legs as a sequel. Still, I'll supplement your warning a little. The queen being secured, let the beginner experiment a little before actually clipping. Notice when she is touched with the scissors how quick as a flash she will put a leg between the blades and take it out again. Do you soberly think your collocation of things is safe enough to clip and get away without danger? If yes, then go ahead. Page 197.

CURING FOUL BROOD WITH ROSEMARY.

Yes, the rosemary method of curing foul brood is an easy one (15 to 20 drops dropped into the hive from time to time), and if we only knew just *when* such little help would

be enough, and just when the conditions positively demanded something stronger, it might be a blessing. As it is, I fear ten will waste time, and let the blaze get unnecessarily big, for each one that will succeed in putting the blaze out. Page 198.

REMOVING BEES FROM THE CELLAR.

About removing bees from the cellar in the spring, I trust that readers will at least not fail to notice that Dr. Miller has no trouble at all, where many of the brethren have serious troubles indeed. This for many years. Must be some reason—and it's queer if his success cannot be duplicated. Serious nuisance to have to secure 10 or 12 good days to put out when one would suffice; and even then the first ones get on their robbing clothes and rob the last ones. I winter bees outdoors, and had no recent experience in putting out—and my surprise is that he insists on sunshine instead of a mildly cloudy, warm day. Of course, he's right rather than I who does not know anything about it. May it be that bees once out stay out until they *feel dry*, and that that time arrives very much quicker in sunshine? Page 200.

VARIOUS "AFTERTHOUGHTS."

A locality in New York where there are no Italian bees! Who'd a-thought it? Page 200.

S. E. Miller did well to extemporize a double-walled melter for $1.90. Page 203.

Dried apples and water to keep the slender queen from getting through the zinc—worth more than the carrier-pigeon suggestion, Mr. Alpaugh. Make the pigeon eat the queen first; then she'll go all right. Page 204.

Too much divergence of the doctors about the maximum of dead bees from 100 colonies—4 quarts or 2 bushels. Page 206.

Yes, have several wise fellows measure tongues from the same colony and see how they tally. Page 206.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

A Reporter's Error.

Are you quoted correctly in the convention report on page 245, second paragraph, right hand column, where they made you say? "I built a cellar purposely to winter bees, 36x40 feet. I don't use it at all now." I supposed you always wintered your bees in the cellar.

PENNSYLVANIA.

ANSWER.—No, I don't know whether the reporter, the printer's devil, or some other person is to blame for the tangle, but the two paragraphs in that second column credited to me were spoken by some one else.

Getting Bees to Work in the Sections.

I would like to know the best method to follow to get bees to work in sections. CALIFORNIA.

ANSWER.—Usually there is no great trouble if conditions are favorable. The sections should, of course, be easy of access, preferably directly over the brood-nest, and as soon as there is any surplus to store the bees are likely to store it. Remember, however, that it is only the surplus that will be stored in the sections, and as long as there is plenty of room to store honey in the brood-chamber it cannot properly be called surplus.

There are, however, times—perhaps it would be better to say there are bees—which will continue to crowd honey into the brood-nest, when in all reason it ought to be putting it in the super. It will help very much to make them change their minds if you will give them a super filled with drawn-out comb. Even a single "bait"-section—that is, a section containing comb more or less drawn out, either with or without honey in the bait—will have the effect to hasten the work in nearly every case. In a season of failure I have had many a case in which the bait was filled and sealed and not a drop of honey in another section in the super. In some cases a single bait may have the effect to start the bees so much sooner that it will make all the difference between swarming and not swarming. It would take a good deal of money to induce me to put on supers without having at least one bait in the first super given to each colony.

Another way recommended by some is to take a super or a section, bees and all, from a colony that is working well at storing, and give it to the balky colony.

Building a Bee-Cellar.

1. On account of heavy winter losses, caused by outdoor wintering of my bees, I have decided to build a cellar which I wish to hold 100 to 125 colonies without crowding. About what should be the length and width? The height will be 6½ to 7 feet. I shall probably use the Danzenbaker hive.

2. Which would you prefer to use for the walls, brick or stone? ILLINOIS.

ANSWERS.—1. A cellar 6½ feet high to hold 125 colonies should be about 14 feet square, inside measure, or 12x15, or 10x19.

2. I don't know. If there is no trouble about keeping it warm enough, perhaps the brick might be better, for brick being mere porous would allow more air to pass through the wall.

Changing Langstroth to Danzenbaker Hives.

1. I have had a few 10-frame Langstroth hives, and desire comb honey. As I think the 10-frame hive too large, I am thinking of cutting down the hives to about the size of the Danzenbaker, and using the Danzenbaker supers. Do you approve of the plan?

2. Will it pay to buy clover honey (extracted) and feed it to the bees in the month of August (when it is very hot and no honey coming in), thus turning it into comb honey for which I can get 16 cents per pound? I have to pay 8 cents for the extracted honey.

3. Candidly, what do you think of the Danzenbaker hive for comb honey? MINNESOTA.

ANSWERS.—1. Better go slow about changing from 10 to 8 frame hives until you know by some trial that 8 frames will be better for *you*. Moreover, are not your 10-frame Langstroths already the right size for Danzenbaker supers?

2. I don't believe it will. But you can decide by trying it with one colony.

3. The only experience I have is with two hives, and that did not decide me that I would gain anything by changing from dovetailed hives. The claims made for it by others are so strong that I may give it further trial.

Sweet Clover Honey—Other Questions.

1. Does not sweet clover honey taste very rank? A year ago last summer I got very little honey, as basswood was a failure, and there was considerable sweet clover around, the honey was very strong and I laid it to the sweet clover, but last year my honey was fine in flavor.

2. How old do bees have to be before they become field-workers? Do they act as nurses a while? Do certain bees stand guard, and do nothing more?

3. Which are the best comb-makers, young or old ones?

4. Is not the wax sweat through the bees after they gorge themselves with honey? They can't make wax when they can't get a surplus of honey, can they?

5. Why do some hives have small, black, shiny-looking bees in them sometimes, which the other bees kill? What is the cause? An old queen?

6. What is the best plan to keep the bees from swarming, and keep them up to the strongest working point? IOWA.

ANSWERS.—1. I don't know. I have made no little effort to overcome my ignorance with regard to sweet-clover honey, but I feel a good deal mixed about it. I have eaten honey that was supposed to be unmixed sweet-clover honey, and I didn't like it, nor did any of the family. I have had some that I supposed was a mixture of white clover and sweet clover, and we thought it better than any other honey we had ever tasted. Some say that if sweet-clover honey is not thoroughly ripened it will have a rank taste. I can

easily believe it, and it is possible that thorough ripening may remove the disagreeable quality.

2. Workers go afield when about 16 days old. Like good children, they all help "tend baby" during their first 16 days. There are sometimes bees that stand guard and do nothing more; but no bee ever spends its whole life standing guard.

3. I think comparatively young ones.

4. Roughly speaking, they might be said to sweat wax; that is, it is secreted by the wax-glands. They cannot make wax without having honey, but they can make it when they are not gathering any.

5. It may be bee-paralysis. The queen is probably not to blame, and it is hard to say what is to blame unless it be the presence of bacillus Gaytoni.

6. Oh my! my! my! Dynamite would answer the question, if you hadn't tacked on that last condition. Taking the whole question together, it may be answered in a tentative sort of way by saying to work for extracted honey, and when the honey-flow first begins raise the hive and put under it a story having foundation or empty combs, with an excluder between, and put the queen in the lower story.

Mineral Wool for Packing.

How would "mineral wool" do as a packing material in the spaces of a double-walled hive? It is said to be a non-conductor of heat, and insects will not stay in it. OHIO.

ANSWER.—I believe it is excellent.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Abbott, who will mail individual receipts.

Weekly Budget.

MR. W. J. PICKARD, of Richland Co., Wis., we regret to learn, is suffering from a continued attack of sciatic rheumatism.

DIRECTOR P. H. ELWOOD (Herkimer Co., N. Y.), of the National Bee-Keepers' Association, on receipt of the Buffalo Convention Report pamphlet, wrote thus approvingly:

"The proceedings are neatly gotten up, and with constitution and list of members is of added value. Bees wintered well."

MR. WM. A. SELSER, wife and daughter, stopped off in Chicago, for a few hours while passing through on their way East recently. They had been away from home for nearly three months, having been in Texas, California, Colorado, etc. Mr. Selser was representing the Government in its investigation of honey analyses, he going out to secure samples of various kinds of honey in different parts of the country. His report will likely be made in about a month to Prof. H. W. Wiley, at Washington.

Mr. Selser and family had a splendid trip, and all were looking well.

NO LIQUOR ADS. NEED APPLY.—In the Modern Farmer for April we find the following from Editor Emerson T. Abbott:

We had the pleasure last month, if pleasure it may be called, of returning a whiskey ad. which was written and sent in to us by an agent. The contract called for $100, and it was signed by a firm with a good rating, but we refused to run the ad., and returned it to the party who sent it.

The Modern Farmer is not so rich that it can afford to throw away one-hundred-dollar contracts, neither are we in this business for revenue only. It remains, however, to be seen what appreciation the friends of a clean paper will show of our effort to keep it clean. If they will stand by us and give us their patronage, we will try to make a farm paper which will be clean in every department.

We are led to wonder, sometimes, how it is that those who claim to be in favor of cleanliness and purity in the home will take and pay for a farm paper which inserts liquor ads. We feel like saying to our readers, "Are you doing it?" If so, our advice is to order the paper stopped at once. You can not afford to take a whiskey drummer into your family circle, and, in addition, pay it for coming. There is surely temptation enough for the boys in this direction on the outside, without bringing it into your own home clothed in the fascinating form of so-called cheapness. Others may help on this kind of work if they choose to do so, but so far as we

QUEENS!

Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North.

The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

We have files of testimonials similar to the above.

Our Breeders originated from the highest-priced, Long-Tongued Red Clover Queens in the United States.

Fine Queens, promptness, and square dealing, have built up our present business, which was established in 1888.

Prices of GOLDEN and LEATHER-COLORED QUEENS, before July 1st:

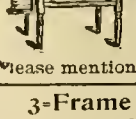
	1	6	12
Selected, Warranted	$1.00	$5.00	$ 9.50
Tested	1.50	8.00	15.00
Selected Tested	2.00	10.50	
Extra Selected Tested, the best that money can buy	4.00		

We guarantee safe arrival, to any State, continental island, or any European country. Can fill all orders promptly, as we expect to keep 300 to 500 Queens on hand ahead of orders. Special price on 50 or 100. Free Circular. Address all orders to

Quirin the Queen-Breeder,
PARKERTOWN, OHIO.
[Parkertown is a P. O. Money Order office.]
15A26t Please mention the Bee Journal.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

30 DAYS FREE TRIAL
You do not know what you can do with an Incubator until you try it. Here is a $10
HAWKEYE INCUBATOR
which we send on thirty days' free trial. It has all our late improvements, three walls, patent copper pipe heating system, safety lamp, nursery, perfect regulator, etc. Catalogue free. Send 10c for book and a year's subscription to leading poultry paper.



Hawkeye Incubator Co.
Box 17, Newton, Iowa.
Please mention Bee Journal when writing.

3-Frame Nuclei FOR SALE
$2.00 Each.
After May 15th, will sell 3-fr. Nuclei of Bees on L. frames, $2.00 each, f.o.b. R.R. here; after June 1st, $1.75 each. ALSO BEE-SUPPLIES.
H. MOORE,
19A2t 704 McLemore Ave., MEMPHIS, TENN.

Headquarters

—FOR—

Beekeepers Supplies

Root's Goods at Root's Factory Prices

Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand.
The freights from Cincinnati are the lowest.
Prompt service is what I practice. Satisfaction guaranteed.
Catalog mailed free—send for same.
The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.
You will save money by buying from me.

Orders taken for Queens—GOLDEN ITALIANS, RED CLOVER QUEENS, and CARNIOLANS. For prices I refer you to my catalog.

C. H. W. WEBER,

2146-2148 Central Ave., CINCINNATI, OHIO.

Successor to Chas. F. Muth & Son and A. Muth.

Please mention Bee Journal when writing.

PAGE

THEY ALL SAY

theirs is "Just as good as the Page." Don't that sound pretty well for "The PAGE?"

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. 200 tested reared last season ready to-day Contracts with dealers a specialty. Discount after July 1st. Send for circular.

JOHN M. DAVIS,

14A26t SPRING HILL, TENN.

Please mention Bee Journal when writing

Bees For Sale.

Two, 3 or 4 frame Nuclei—cheap. Good Queens.
18A2t G. W. GATES, BARTLETT, TENN.

$5 TO START YOU IN BUSINESS

We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.

DRAPER PUBLISHING CO., Chicago, Ills.

COMB FOUNDATION ADVANCED 3 CENTS A POUND.

Owing to the increased price of beeswax, until further notice, dealers handling the A. I. Root Company's goods are compelled to raise the price of Comb Foundation 3 cents per pound above the prices found in their price-lists and catalogs. Please take notice.—Adv.

are concerned, we will have nothing to do with it; and should we fail in our attempt to make a clean paper, we will have the consciousness left that we have been true to our own convictions, and this, to us, at least, is worth more than the money.

Good for the Modern Farmer! We are entirely with Mr. Abbott in saying that if we can't succeed in publishing a clean paper we prefer to fail. But the agricultural press is quite free from whiskey and tobacco advertisements. It is the daily and weekly newspapers that seem to have a monopoly of such abominations. But bee-keepers, above all people, would not tolerate in their homes a bee-paper or farm-paper that would publish such advertisements. They think too much of their families, and have more self-respect than to do that.

A SONG OF TONGUES.

BY HARRY LATHROP.

Some months and weeks have passed along
Since I've been heard in prose or song;
So on the "Journal's" shining page
I'll speak of what is all the rage;
Fooling with what no profit brings—
Time lost that might serve better things.
But here I close this introduction,
To pen the following short production:

Longer tongues for bees, indeed!
And longer tails for dogs;
And why not also try to breed
Some longer jumping frogs?

"Bees with longer tongues," they say,
"Would gather where others couldn't;"
But Doolittle said, the other day,
"Some gather where others wouldn't."

Better not idle away your time
With longer tongues or tails,
Or others will beyond you climb,
And the wind take out of your sails.

I'm satisfied with my bees' tongues;
I'm satisfied with their stings;
But give me the bee that has good lungs,
And the bee that honey brings.

The tongues of bees are long enough:
As well improve the lung;
This talk of tongues is only "stuff"—
The song will soon be sung.

Another fad they soon will start,
But what? Oh! who can tell?
Unless he act the prophet's part,
And act it very well.

Improvement now should comprehend
Improvement of bee-keepers;
For some for silly fads contend,
While some are only sleepers.

Green Co., Wis.

MR. W. C. GATHRIGHT'S APIARY is shown on the first page this week. He writes as follows concerning it:

I send a kodak picture of a corner of my apiary, also showing some cacti and amole plants in the background. This apiary consists of 250 colonies, and is run for both comb and extracted honey. I also have a large number of nuclei.

There is something like a dozen wild plants that yield honey in this locality, though the mesquite and alfalfa are the main source. The honey-flow is slow, but lasts, on the average, about 5½ months. During all this time there is enough nectar in the flowers to keep the bees busy, and they never kill off the drones until late in the fall. This makes the ideal conditions for queen-rearing.

The picture was taken in winter, and shows the style of hive I prefer for comb honey. It consists of an upper and lower story, the upper one having frames 5 inches deep. The lower, or main brood-chamber, has 9 frames 7⅜ inches deep. The upper story contains most of the winter stores, and is left on until time to put on sections. When the bees have

Queens you should Have

Does blood tell in other stock? Give your bees a chance. Stock used for breeding the queens offered—not from a sport, but my pick out of an apiary giving last season an average yield as follows:

Honey-Gathering.

102 lbs. extracted and 68 lbs. comb honey per colony besides increase and stores for winter.

Quality of Comb-Honey Produced.

"Man! It would dazzle you." Wm. Envoy, Ontario Government Inspector of Apiaries.

Wintering Qualities.

Up to the present (January 30) I never found these bees to show the least indication of unrest—always perfectly quiet. They are wintering perfectly.—Frank T. Adams, Brantford, Canada.

General Commendation.

Out of those queens you sent me I have produced the best race or strain of bees I ever owned. Remember that is saying a lot, as I have tried every breed imported in this country. The bees winter better, build up, and stand cold chilly winds in spring better, and are more suitable than any bees I ever owned. For the season they gave me about double the honey the pure Italians did, and more increase. Glad you are going into the queen-business, and are going to join the ranks again. We are much in want of a few men like you. C. W. Post, Ex-president Ontario Bee-keepers' Association (owns 365 colonies).

S. T. Pettit, Canada's most successful comb-honey producer and bee-keeper, says: "The blood in my apiary is largely the progeny of queens sent by you, and they are grand bees."

Prices of Queens.

They are duty free to the United States. Tested, $2.00 each; $10.00 for 6; $18 00 per dozen. Untested until July 1, $1.25 each; $7.00 for 6; or $12.00 per dozen. Same after July 1st, $1.00 each; $5.50 for 6; or $10 00 per dozen. Larger quantities, prices on application. Postage stamps taken for fractions of a dollar. To be fair to every one, no selected tested queens are offered. Every one has the same chance. The above queens are bred from a careful selection of Italians and Carniolans. Pure Italian and Carniolan queens same price. Price of full colonies on application. Orders booked as received, and filled as quickly as possible. Order early.

Address, **R. F. HOLTERMANN,**

Bow Park Co., Limited, Brantford, Ont., Canada

9D8t. Please mention the Bee Journal.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow).....	.90	1.70	4.00	7.50
Alsike Clover	1 00	1.80	4.25	8.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.

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Low Rates to Eastern Points

will always apply via the Nickel Plate Road and its Eastern connections to all points in New York, New England, and the Eastern States. Three daily trains to Ft. Wayne, Findlay, Cleveland, Erie, Buffalo, New York and Boston. Standard equipment on all trains. Meals served in dining-cars, on American club plan, at prices to suit passenger, from 35 cents to $1.00 per meal. For particulars call on or address, John Y. Calahan, General Agent, 111 Adams St., Chicago. Depot, Fifth Ave. and Harrison St. 'Phone Central 2057. 2—18A3t

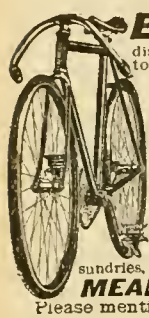
Bee-Keepers—Attention!

Do not put your money into NEW-FANGLED BEE-HIVES, but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for heeway sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

THOUSANDS OF HIVES, MILLIONS OF SECTIONS, Ready for PROMPT SHIPMENT.

G. B. LEWIS CO., Watertown, Wis.

Please mention Bee Journal when writing



EARN A BICYCLE distributing 1000 catalogs for us in your town. *Agents* can make money fast on our wonderful 1902 offers.

1902 Models, $9 to $15

1900 & '01 Models; high grade, $7 to $11

500 Second-hand Wheels all makes and models, good as new, $3 to $8. Great *Factory Clearing Sale* at half factory cost.

We ***SHIP ON APPROVAL*** and **10 DAYS TRIAL** to anyone in U. S. or Canada without a cent in advance.

Write at once for net prices and *special offer* to agents. Tires, equipment and sundries, all kinds, half regular prices.

MEAD CYCLE CO. Dept 357 N CHICAGO, ILL.

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BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES.

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.

512 MASS. AVE. INDIANAPOLIS, IND.

Please mention Bee Journal when writing.

30 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 30 cents a pound—CASH—for best yellow, upon its receipt, or 32 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

We are the Largest Manufacturers of Bee-Keepers' Supplies in the Northwest

Send for catalog.

Minneapolis, Minn.

We have the Best Goods, Lowest Prices, and Best Shipping Facilities.

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Marshfield Manufacturing Company.

Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.

7A26t Please mention Bee Journal when writing

Went Like Hotcakes

A Nebraska customer when ordering a new supply of our fine Alfalfa honey in 60-pound cans, said: "The last I got went like hotcakes." So it does.

More people might do well if they would order this honey, or basswood, and sell it. It not only goes off "like hotcakes," but it is mighty good on hot cakes.

See honey-offers on page 301.

Catnip Seed Free!

We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers **one ounce** of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with $1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for $1.20; or will mail an ounce of the seed alone for 30 cents.

Send all orders to GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

begun storing in these shallow combs they are taken off and the sections are put on, and the bees enter and begin work at once. By this plan I have but little swarming. The shallow combs that contain brood are placed over weak colonies. W. C. GATHRIGHT.

DR. C. C. MILLER, of McHenry Co., Ill., writing us on April 29, had this to say about the Buffalo Convention Report and his bees:

I think I will be doing a favor to any new subscriber to advise him to send 25 cents to obtain a copy of the Report of the last convention of the National Bee-Keepers' Association. The time of the convention was almost entirely taken up with live discussions, and these are reported in an unusually correct manner. In such discussions thoughts are brought out that would not be obtained in any other manner; and the discussions in this report are exceedingly interesting. I am free to say this without being charged with blowing my own horn, for I was occupied so much of the time during the sessions at the directors' meetings, that I had comparatively small part in the discussions of the convention.

Bees are now having fair opportunities on dandelions and some other flowers, and fruit-bloom is just opening, seeming a little earlier than usual. C. C. MILLER.

The Report referred to we mail for 25 cents, or with a year's subscription to the American Bee Journal—both for $1.10. It contains 80 pages and cover; portraits of all the officers and directors of the National Bee-Keepers' Association, besides the two latest bee-keepers' songs, words and music. It is indeed a valuable Report also, as Dr. Miller says.

GENERAL ITEMS

Bees Wintered Well.

The bees are in fine condition. They seem to come out better than usual. All of the colonies seem to be strong, and if we have the right kind of weather for the flowers to secrete nectar, we will have some honey.

ADA L. PICKARD.

Richland Co., Wis., April 29.

Bee-Keeping in Arkansas.

I am very much interested in bees and bee-papers. I enjoy reading the reports from different bee-keepers very much. Although some of them sound pretty big compared with anything we can do here, I remember that we live in a big world, and pass on.

As no one else tells the readers of the American Bee Journal anything about the bee-keepers' luck here, I will try again to tell them about our hopes and disappointments. Of all the different kinds of work that people follow, either for a living or for pleasure, I believe that we bee-keepers have the most and bitterest disappointments.

As stated in my last, I have part of my bees in movable-frame hives and part in box-hives. They were put into winter quarters in fine shape, by feeding a few of the lightest ones. They were all in better shape than in the fall of 1900.

We have had one of the worst winters I have ever seen—cold and wet nearly all the time until the first of March, when we began to have a little warm weather. About this time the bees began to rear some brood. As a result of the cold winter and spring I have had no end of trouble, feeding to keep some of them from starving. As far as I know, 8 of the colonies in frame hives, and may be one or more in the box-hives, are queenless.

Two weeks ago we had a fine prospect for

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

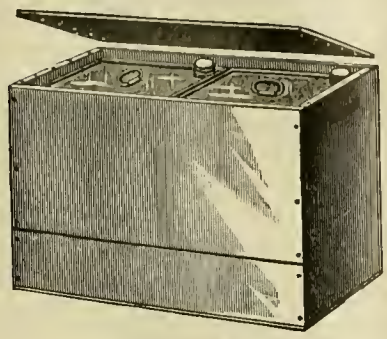
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Yes, Sir!

The MUTH'S SPECIAL dovetail hive is a "**Cracker Jack.**" COVER and BOTTOM-BOARD are absolutely warp-proof. We know because we are practical. Our illustrated catalog explains it all. You can have one by asking. Not a hive left over from last season. We sell the finest SUPPLIES at manufacturers' prices.

STANDARD BRED QUEENS, none better than our BUCKEYE STRAIN of 3-BANDERS and MUTH'S STRAIN GOLDEN ITALIANS. 75 cents each; 6 for $4.00. Safe arrival guaranteed.

THE FRED W. MUTH CO., Front an Walnut Sts., CINCINNATI, OHIO.

BINGHAM'S PATENT Smokers
24 years the best. Send for Circular.
25Atf T. F. BINGHAM, Farwell, Mich.

DAIRYMEN ARE DELIGHTED
to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.

Bees For Sale.
75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.
O. H. HYATT,
13Atf SHENANDOAH, Page Co., IOWA.

Please mention Bee Journal when writing advertisers.

NOTICE

THE A. I. ROOT COMPANY have a Branch Store at 10 Vine St., PHILADELPHIA, PA.,

Where they have direct steamboat connections with Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, North Carolina, South Carolina, Georgia and Florida, and low freight-rates.

As this is a main branch, order from any catalog or quotations given from Medina.

Healthy ITALIAN BEES. Full colonies, 8 frames and queen, $7.00. Wholesale rates on application.

1902, but we have had our part of bee-keeper's luck. Bee-keepers work hard, early and late, to be ready for the main honey-flow, and, presto! just a week or 10 days' rain, or heat, or cold, and all their fond hopes are dead for another year. Just so here now. The last two weeks have been cold and cloudy very nearly all of the time.

Poplar is our main honey-flow. It blooms in April and lasts for about three weeks; sourwood comes next, in June; bitterweed in August. April is our main swarming-time, but up to the present time (April 14) I have not had a single swarm, and very little prospect of any. Unless the weather changes within a few days honey will be very short here this year.

I am still feeding some to keep them from starving.

I think this is one of the worst places for bees. We have only a good year about every 3, 4 or 5 years; 1889, 1892, 1895, and 1900, are the only good ones I remember.

There are several bee-keepers within 15 miles. They all use box-hives, and keep from 10 to 30 colonies. I have tried to get them to use the frame hives, and they keep saying they are going to, but they never get started.

I have asked them to take some bee-paper, but they say they are not able. They call a queen a king. I think some of them think the drones lay eggs, and some that they get comb off of the sweet-gum tree. They could not tell in a month whether the bees got honey from pine, oak or poplar.

Hale Co., Ala. J. S. PATTON.

Bees in Good Condition.

My bees are in grand condition, several hives having as much as eight frames of brood. I have encouraged their breeding to their full capacity, as this is the fruit year, and I wish to get a crop of apple-blossom honey. ALLEN LATHAM.

Norfolk Co., Mass., April 29.

Rearing Long-Lived Bees.

On page 105, F. Brown, of Florida, wishes to know why his best honey-gatherers live longer than the average bees. I have had much experience along this line for many years. First, I observed that some colonies, "never having more brood than others," were twice as strong. Why was this? Queens were exchanged with results the same. Strong colonies pass the winter better, build up more rapidly in spring, and have greater force to gather honey when the flow comes. These

Standard Belgian Hare Book!

BY M. D. CAPPS.

THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

Price, in handsome paper cover, 25 cents, postpaid; or with the American Bee Journal one year—both for only $1.10.

GEORGE W. YORK & CO.,
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If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

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FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

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SENT POSTPAID BY

George W. York & Co. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

Good Second-Hand Hives —FOR SALE—

10-frame Simplicity-Langstroth, standard in every way. When I kept bees I would have been glad to pay $1.00 each for such hives. Write for particulars. MRS. B. J. LIVINGSTON.

19A2t CENTER CHAIN, MARTIN CO., MINN.

workers living longer was the only cause of their gathering more honey than others. By changing queens I proved the longevity of their workers.

Next I found I could rear queens from my poorest queens that produce long-lived workers, while queens could be reared from my best queens whose workers were very short-lived.

This proves to my satisfaction that long-lived bees gather more honey, and are in the lead in every respect.

It is just as easy to rear queens that will maintain strong colonies during the honey season as to rear those that produce only weak colonies, if you know how.

I find it is not so much the mother as it is in the manner her daughters are reared.

GEO. W. RIKER.

Lucas Co., Iowa, April 14.

All Wintered Well.

My bees are working nicely, carrying in lots of pollen when we get a day that is warm enough. The spring is very cold and backward here. I put 11 colonies into the cellar last fall, and they all came out in good shape. I have wintered bees three winters, and have never lost a colony. C. M. LAWRENCE.

Blackhawk Co., Iowa, April 29.

No Foul Brood in Bee-Trees.

I noticed the article on page 253, and the Editor's remarks, and I will say we do not find foul brood in bee-trees. Foul brood and black brood have the same origin, only under different conditions of the atmosphere, and can be eradicated by the same remedy or process.

Bees came through the winter stronger than ever, flew 25 days, from March 1 to April 1, brought in honey and pollen March 20; last year April 8. It has been so dry during April they have not made much advance.

D. H. METCALF.

Calhoun Co., Mich., April 19.

Last Three Seasons Poor.

I have been in the bee-business for a good many years, and the last three were poor ones in this section. I keep my bees in chaff hives; 12 died the past winter, and the rest are very light. DAVID LIVINGSTON.

Somerset Co., Pa., April 16.

Bees All Right this Spring.

I have unpacked my bees and found them all right—plenty of honey and pollen, and plenty of young bees. I wintered them on the summer stands, with chaff cushions in the super and old hay packed around the hives. I had eight colonies last spring, increased two, and the ants killed one colony. I got 139 pounds of comb honey last season, and plenty to winter on. I wintered nine colonies.

MRS. BEN FERGUSON.

Ford Co., Kans., April 21.

Results of Last Season.

I began last season with 21 colonies, and got 1900 pounds of honey, about one-third comb. I sold it all at home at an average of 10 cents a pound. I have 28 colonies now in good shape for the summer.

C. H. BENSON.

Calhoun Co., Mich., April 23.

Blind for Five Years.

I used to write a few years ago about my bees and my blunders. Since I became blind, about five years ago, I have kept pretty still. My bees keep still, too; neglect has caused their silence. Neglect has a different effect on me.

They lived along at a "poor, dying rate" until the past winter, when a damp, poorly ventilated cellar finished them. A year ago the mice tried to do so, but spring came too soon, so a few were left.

I remember one of your correspondents, a

—ITALIAN—

Bees and Queens!

Having been 28 years rearing Queens for the trade, on the best known plans, will continue to rear the best during 1902.

PRICES:

1 Untested Queen $1.00
1 Tested Queen 1.50
1 Select Tested Queen ... 1.50
1 Breeder 3.00
1-Comb Nucleus, no queen 1.80

Write for catalog, giving prices of Comb Foundation and prices of Queens by half doz. and doz. lots.

J. L. STRONG, Clarinda, Page Co., Iowa.

19Dtf Please mention the Bee Journal.

(Exact size of the Pen.)

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They hold sufficient ink to write 10,000 words, and **do not leak or blot.**

As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

Pens are furnished in neat paper boxes. Each pen is accompanied with full directions, filler and cleaner.

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Send TWO NEW SUBSCRIBERS to the American Bee Journal for one year, with $2.00; or send $1.90 for the Pen and your own subscription to the American Bee Journal for one year; or, for $1.00 we will mail the pen alone. Address,

GEORGE W. YORK & CO.

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"What Happened to Ted"

BY ISABELLE HORTON.

This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address,

ISABELLE HORTON,

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few years ago, wrote about being sick. While lying on his couch where he could overlook his bee-yard, he saw swarm after swarm depart, and no way to help himself. I remember I shed tears of sympathy; I was very happy then with my bees. Ten of the happiest years of my life was the 10 years with the bees. Then came five years of heartache. But I have many blessings left, when I can remember them. MRS. B. J. LIVINGSTON.
Martin Co., Minn., April 30.

Bee-Keeping in Florida.

The past winter here in western Florida has been a cool one, though there was no severe freezing. The spring is rather late.

I look out upon an orange tree in its garb of shining leaves, and the air is fragrant with the odor of orange blossoms. Some orange trees lost their leaves, while others did not. Pomegranates are now in bloom, and magnolias are opening.

The past winter being cool, the bees were slow in building up strong, and few swarms have issued. Many persons still use the tall box-hives, which are made of pine. To-day I saw two Langstroth hives with many bees clustered in their porticoes. All the bees I have seen are the small, black ones.

At West Bay—an arm of St. Andrews Bay—I was told that white comb honey sold for 5 cents per pound; it was chunk honey, not in frames. I have purchased good extracted honey, produced at Wewahitchka (commonly called the Dead Lake) for 25 cents per quart.
MRS. L. HARRISON.
Washington Co., Fla., April 23.

Honey Prospects Poor.

Last season was a very poor one for honey. I now find white clover scarce, and a poor prospect for this season. I have 23 colonies in good condition. CONRAD JON.
Putnam Co., Ind., April 22.

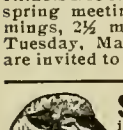
Feeding to Tide Over—Alley Trap.

I have 48 colonies of bees, one having died, and since taking them out I found another colony queenless, to which I gave a couple frames of brood. I have fed some sugar, and expect to feed two or three sacks before white clover comes. I think it pays. I fed 25 colonies two sacks last year, and it paid well. I had my bees strong as soon as the honey-flow started. We have white and yellow sweet clover; I never saw the yellow until about two years ago, then I saw a few sprigs of it near the depot. I suppose it came in some way on the cars. It is spreading some; most people in town oppose it, and cut it down on the streets, as it grows so rank, though not as rank as the white.

I think the Alley drone-catcher is a fine swarm-catcher. When you expect a swarm put on the catcher, and when the swarm issues you will find the queen in the catcher. Remove the old colony, put a new hive in its place, and when the bees return let out the queen, and they will all go in like a flock of sheep. WM. CLEARY.
Kossuth Co., Iowa, April 22.

CONVENTION NOTICE.

Illinois.—The Eastern part of the Northern Illinois Bee-Keepers' Association will hold their spring meeting at the residence of O. J. Cummings, 2½ miles northeast of Rockford, Ill., Tuesday, May 20, 1902. All interested in bees are invited to attend. B. KENNEDY, Sec.



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1861 —ADEL QUEENS— 1902

Adel bees the Standard strain. My 1902 Catalog ready to mail May 1. Send for it. Address,
HENRY ALLEY, Wenham, Mass.
18Atf Mention the American Bee Journal.

3-Frame Nuclei For Sale.

We have arranged with a bee-keeper located in Kankakee Co., Ill., (within 12 miles of Kankakee), to fill orders for Nuclei of bees. All are to be first-class, and most of the bees show Italian markings. The queens in the Nuclei will be Italian, of this year's rearing.

The Nuclei are 3-frame Langstroth, in light shipping-boxes. Prices: 1 for $3.00; 5 or more at $2.75 each.

All are f.o.b. shipping-point, and will be sent by express, a postal card notice being mailed to each purchaser a day or two before shipping the bees.

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4—18A3t

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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Apr. 18.—The season in which comb honey sells prior to the new crop is now practically at an end; therefore prices are more or less irregular, as some sections in a case will be grained more or less and others free. The best lots of basswood and clover sell at 14@15c; other kinds of white at 10@13c; ambers are not in heavy supply and sell at 9@12c. Extracted is dull at 5@6½c for white, and 5@6c for amber, depending upon flavor and other qualities. Beeswax scarce at 32c. R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH CO.

ALBANY, N.Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6½c. Beeswax, good demand, 30@31c.
H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c: Florida honey, in barrels, 6@6½c. BLAKE, SCOTT & LEE.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

CINCINNATI, Apr. 11.—Stock of comb honey here is larger than it ought to be at this time of the year, and this is why it is offered for very low figures. Water-white is sold at 14@14½c and hard to obtain; for extra fancy, 15c.

Extracted finds a steady sale, and amber is sold in barrel lots for 5@5½c; water-white alfalfa sells from 6@6½c, and white clover brings from 6½@7c. Beeswax scarce at 30c.
C. H. W. WEBER.

NEW YORK, Apr. 7.—Comb honey, last year's crop, practically cleaned up, but as we wrote a little while ago we had received new crop from Cuba, and are now receiving new crop from the South. Demand is fair at 14c for fancy white, 13c for No.1, 12c for No.2, and 10@11c for amber.

Extracted: The market is decidedly dull. Very little demand, with large stocks on hand, some of which no doubt will have to be carried over, and indications point to a further decline in prices. We quote: White, 6c; light amber, 5½c; amber, 5c; Southern, 52½@58c per gallon, according to quality. Even these prices are shaded in car lots. Beeswax, scarce and firm at 29@30c. HILDRETH & SEGELKEN.

SAN FRANCISCO, Apr. 16.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Demand is not very active, and market cannot be termed firm, although quotable values remain without important change. Considerable honey of last crop is now being offered, which up to a few weeks ago had been held off the market. New crop is expected to arrive in wholesale quantity in the very near future.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

BEE-KEEPERS,

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Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF

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European Tourists and Others destined to Eastern points, will find the low rates applying over the Nickel Plate Road to New York, New England and other Eastern destinations, specially attractive. The Eastern terminals via this line are only from three to ten minutes from all ocean steamship docks, and the service afforded is first-class. Three trains daily from Chicago. Uniformed colored porters are in charge of day coaches, whose duties require that proper care shall always be given to keeping cars clean and attending to the wants of passengers en-route. Meals are served in dining-cars at prices that are reasonable and within reach of all. Details cheerfully furnished on application to John Y. Calahan, General Agent, 111 Adams St., Chicago. Chicago City Ticket Office, 111 Adams St. 'Phone Central 2057.

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Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

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Advance in Prices of Foundation...

We quote an advance of **THREE CENTS PER POUND—WHOLESALE AND RETAIL**—in Comb Foundation.

We are much in need of Beeswax, and pay the **HIGHEST PRICES.** Send us all you have to spare, either for cash or trade.

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The best comb-honey hive on the market may be obtained of The A. I. Root Co., of Medina, Ohio; at any of their branch houses, and many of their local and jobbing agencies. Send to the address nearest you, and save freight, and get quick delivery.

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Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.

THE A. I. ROOT COMPANY, Medina, Ohio.

GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market. J. B. MASON,
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.

M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.

THE A. I. ROOT CO.,
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MAY 15, 1902.

FORTY-SECOND YEAR
No. 20.

WEEKLY

ATTIC APIARY OF REV. W. S. SLY, OF INGHAM CO., MICH.
—(See page 315).

Montgomery Ward & Co. Catalogue No. 70
CATALOGUE AND BUYERS' GUIDE No. 70
THIS IS OUR ONLY SALESMAN
We have been working together on this catalogue for thirty years. We consider this number to be as near the ideal Buyer's Guide as the world has ever seen. We have done our best and our assistants have done their utmost to tell the TRUTH about everything listed herein
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Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

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Long-Tongue Variety—Warranted Purely Mated

We have arranged with the queen-breeder who furnished Long-Tongue Red Clover Queen for us during the season of 1901, to fill our orders this season. Although fully 95 percent of the untested queens he sent out were purely mated, this season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most excellent reports from the queens we supplied last season. And this year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

Orders for these fine, "long-reach" Warranted Queens will be filled in rotation—"first come first served"—beginning as early in June as possible. It is expected that orders can be filled quite promptly (even better than the past season), as a much larger number of queen-rearing nuclei will be run. (But never remove the old queen from the colony until you have received the new one, no matter from whom you order a queen).

All Queens will be guaranteed to arrive in good condition, and will be clipped, unless otherwise ordered.

A Warranted Queen for Sending us only TWO NEW YEARLY SUBSCRIBERS.

In order that every one of our subscribers who wants one of these Warranted Queens this season can easily earn it, we will book your order as follows:

No. 1.—For sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00, we will mail you ONE of these queens free.

No. 2.—Or, for sending us *one new* subscription at $1.00, and 30 cents more ($1.30), we will mail you a queen, and the Bee Journal for one year to the new subscriber.

No. 3.—Or, send us $1.60 and we will send to YOU the Bee Journal for one year, and also a queen.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., MAY 15, 1902. No. 20.

Editorial.

The Jamaica Bee-Keepers' Association is not a bee-keepers' association in the usual sense of the term. This office is in receipt of a circular "setting forth the object and methods of the Jamaica Bee-Keepers' Association more clearly," from which it appears to be a good deal like a company united to dispose of honey on commission, charging patrons 2½ percent commission and 1 percent brokerage. At present their market is to be London and Bristol, the honey to be shipped in barrels in preference to tin.

Weather for Handling Bees.—Some have said that less stings will be received when handling bees in cool, cloudy weather. Possibly there may be something in that with some bees, especially black bees, if the air is so cool that they are inclined to be stupid. But beginners should understand that even if the bees will permit it, the brood-nest should never be disturbed when it is too cool for bees to fly freely. Moreover, it is true in general that the hotter the day the better-natured the bees. If you want to have a big fight on your hands, just open a hive of Italians when it is so cool that none of the bees are flying. Even in pretty good weather it will be found that as the temperature becomes cool toward evening the temper of the bees changes with it. When it is too hot for you to stand coat or vest, if bees are gathering at all, you will find them on their best behavior.

Apropos of this subject, Bulletin de la Meuse says: "To open a hive in cold and windy weather is as imprudent as to take a baby from its warm cradle and expose it to a current of air in its chemise."

Don't Crowd the Bees.—One of the factors that plays an important part in causing bees to swarm is the lack of room. Indeed, it may be the greatest factor, for with very large hives and abundant super-room some report that not more than two to five colonies in a hundred swarm. As it is quite generally admitted nowadays that swarming militates against the greatest yield of surplus, the effort should be to give all the room needed. For after preparations for swarming are started, no amount of additional room will dissuade the bees from their purpose. The old rule to give supers as soon as bits of white wax are seen along the top-bars is an excellent rule in all respects except as to its bearing on swarming. The likelihood is, that when these bits of new wax are found deposited where they are not needed it is because there is some feeling on the part of the bees that they are getting into cramped quarters—a feeling that ought not to be allowed to obtain if it is desired to keep down all thoughts of swarming.

Do not wait for any inside indications of the need of supers, but take your cue from the outside. If you are in a white clover region, watch for the very first clover blossom that appears, and put on supers at once. They will not be heeded by the bees for ten days, because a stray blossom will be seen here and there before the clover harvest begins, but if supers are on in advance the bees will begin promptly in them when the harvest begins, and in many cases they will become so interested in storing that they will not stop to discuss whether they should swarm.

The little harm done by having needless room to keep warm will be richly repaid by the great advantage of having full attention given to storing with no distraction in the way of swarming.

Value of Old Combs.—In the Australasian Bee-Keeper is a symposium upon extracting wax from old combs. Among others G. Colbourne gives his plan, but closes by saying:

But I would like to ask, Why melt up those old combs? I have yet to see the comb that was too old to use. I would never think of melting a comb because it was too old; those combs are as good as a little gold mine to me. How I can make the extractor hum, in throwing out thick honey from them, whereas, if I had a new comb I must go slow, no matter how well it is wired. No, my friends, don't melt up your old combs. If you want to get good wax melt the new, and keep the old ones to extract from.

Keeping Breeding-Queens in Nuclei.—This question is raised by a correspondent who seems not fully determined in his own mind that best results in queen-rearing can be obtained if the queen whose eggs are used for queen-rearing be kept in a nucleus. He says:

"As a queen thus confined and kept back in her egg-laying duties is surely not in a normal condition, the thought came to me that it might *possibly* have a detrimental effect on her progeny. It might be very slight at first, but if kept up for several generations it might be more noticeable. Isn't it agreed that better queens can be reared when 'all hands' are busy and the queens are laying 'full speed' than at any other time? I don't know that there is the least ground for my suspicions, but I thought it might be well to look the matter up a little."

It is not likely that there is anything wrong in the general impression that better queens are reared when bees are gathering freely, and the temperature in the brood-nest is such that there is never any danger of the slightest chilling of brood. For at such times there is every facility and every inducement on the part of the nurse-bees to feed the royal larvæ bountifully. A royal larva in a full colony is not likely to be well fed at a time nothing is doing, and consequently a limited amount of the proper food prepared: and no doubt the case is still worse in a nucleus. Observation on the part of many confirms this belief.

How is it if the mother-queen is in a nucleus? If the proper proportion of nurse-bees are present, may they not be as active as in a full colony? And having a limited amount of brood to feed, may they not feed the queen as lavishly as she would be fed in a strong colony? Being well fed, and having little laying to do, if it is true that laying is exhaustive, ought she not to be in a greater vigor, if possible, than in a strong colony? and as a consequence ought not her eggs to be of the best quality? Then during the very short time that the young larvæ are fed before being taken—a time not exceeding perhaps 24 or 36 hours—why should they not be fed as well as in a strong colony? The case might be different if queens were reared in cold weather, when proper heat can not be kept up in a nucleus; but queens are reared at a time when the bees have to work to keep down the temperature rather than to raise it.

If there is anything wrong in the foregoing view it is very desirable that it should be pointed out, for in a matter on which so much depends it is important that no wrong view should prevail.

Prolonging Life of the Queen.—When one has a queen that is especially valuable for breeding purposes, it may be desirable to have her live as long as possible. A practice more or less common is to keep such a queen in a nucleus. The question may be raised whether there is any evidence that a queen kept in a nucleus will live any longer than if she were kept in a strong colony. It is well known that workers live much longer when doing little or nothing than when working hard. As laying eggs is the work of the queen, there seems some reason for believing that heavy laying will shorten the life of a queen, just as hard work shortens the life of a worker. It would be a satisfaction if those who have had much experience in the matter would report upon it, and say how the length of life of queens in nuclei has compared with that of queens in strong colonies.

The idea of keeping a queen in a nucleus will result in greater longevity of offspring has been scouted as ridiculous, but it may be questioned whether any one has ever seriously advocated such a thing.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 294.)

A WAX-PRESS IN A SOLAR WAX-EXTRACTOR.

"Has there ever been a wax-press on the inside of the solar wax-extractor?"

Mr. Blunk—That's a question of mine. I have seen a good deal about the German wax-press. Why cannot we press it right in the solar extractor? That's why I ask if there has been one, and, if a success, I would like to have one. If not, I am going to make one.

Mr. Dadant—While I can't exactly answer the question, we have used solar extractors both for combs and residue of hundreds or thousands of pounds of beeswax. The first principle is to have the sun strike the beeswax. Put a press in there, and the sun doesn't strike the beeswax.

Mr. Blunk—You wouldn't be pressing all the time.

Mr. Dadant—Take what is in your solar extractor, and put it in the press while hot.

Mr. Blunk—Press right through at the time. When you get enough in there, press it by screwing.

Mr. Dadant—You must remember the thing must be all in the sun, and it must be scattered. When scattered there will be very little of it. If you put two combs, one on top of the other, the under comb will not melt. If you have only one-comb thickness there will be so little to press that it will stick. One thing we have done, and that is to take it out on a hot day, in the heat of the July sun, and press it right through, and get little of it; but it isn't worth it.

INTRODUCING QUEENS TO A LAYING-WORKER COLONY.

"When a colony loses its queen and develops a laying worker, can a fertile queen be introduced successfully?"

Dr. Miller—Find that laying worker, take it away and put another queen in. The only trouble is that when there is one laying worker there, there may be 50 or 100 or 1,000 of them. The notion that there was only one laying worker in a hive is exploded, and it is often that there are many engaged in it; and while it is difficult, it is not utterly impossible; yet you can manage to have the queen introduced.

"What would you do with a laying-worker colony?"

Dr. Miller—I would break it up, because you don't have laying workers until they have been a long time queenless and nothing but old bees. I would break it up and distribute the bees to other colonies.

Mr. Riker—Sometimes we have colonies of young bees that become queenless and they have laying workers. My method of subsiding that is to introduce a fertile queen in a cage for ten, twelve or fifteen days in that colony, and then liberate her, and everything is all right.

Mr. Whitney—Mr. Riker's experience has been mine. I found a colony with laying workers; I introduced a queen and inside of 48 hours everything was all right.

Mr. Blunk—Was she caged?

Mr. Whitney—I introduced her just as I would introduce a queen to any colony. I had some misgivings, as I expected they would kill her, but they didn't.

Mr. Dadant—I would suggest, if you have a valuable queen, not to introduce her to a queenless colony. If you have a queen to spare, and she is good, introduce her to a colony where the colony is not very valuable; and if you have a queen and you don't care whether she is killed or not, introduce her into the colony with drone-laying workers; by introducing her you will succeed half of the time, and if you lose her, well, there is nothing much lost.

Mr. Whitney—That's just what I think. Change the queen, take out a poor one, and put in a good one.

Mr. Hintz—In my experience, I had two about two or three years ago that were queenless, and the most successful way I found was to take away the hatching brood and the laying workers will disappear. Six times out of a dozen you won't succeed, but you take a frame of workers or hatching brood and they almost always will, as soon as hatched out, accept a queen within 48 hours.

Mr. Green—I had a little experience last spring, different from anything I have run across in the bee-books. In consequence I got a good colony. The colony lost its queen. I went through the colony, clipped the queen just before swarming, and I think I clipped a virgin queen. I introduced a frame of brood and they started queen-cells, and I selected a good one, and soon after that I found laying workers and eggs scattered all over. I read so much about layer workers—that you couldn't do anything with a colony of that sort. The queen had hatched, and I concluded they had destroyed that queen and consequently broke up the colony and distributed, and after going too far in that process I found a good queen in that colony. They had gone right on and reared their young queen from brood, and all that time they had laying workers laying as fast as they could lay.

Mr. Swift—I would like to know whether, when you break up the colonies and introduce them into their hives, you will introduce the laying workers in those hives?

Mr. Hintz—In that one colony of mine I put eggs and larvæ, and they wouldn't start a queen-cell; but as the young bees were hatching, they accepted a queen in 48 hours.

Dr. Miller—Answering the question asked, I think you will find that if you distribute to other colonies the bees that have laying workers, that you will distribute the laying workers, but they will go into another colony with a good queen; their occupation is gone.

SEVERAL QUESTIONS AND ANSWERS.

"When should a queen begin laying in order to have colony in shape for the honey-flow by June 10?"

Dr. Miller—Whenever good weather comes.

"Will a queen that has been a good one through the season, but commenced laying drone-eggs in worker-cells, be all right next spring?"

Dr. Miller—No.

RIPENING HONEY.

"Should all comb honey by ripened after taking from hive?"

Dr. Miller—No.

"How long before putting in cases would you consider the proper time for the same?"

Dr. Miller—That depends. All comb honey should not be ripened, because if ripe enough it doesn't need any ripening, and if it isn't, as to the time, depends on the time needed. As a general rule, when honey is sealed it is ripened, but not always. There is no law you can put down to it.

Mr. Hogge—How am I to know when I take it off that it is ripe? I had some experience the past summer with comb honey. I found some of my honey, after four weeks taken off, that was dripping—looked like sweat. I thought the honey looked as if it was perfectly sealed.

Dr. Miller—Take the ripest honey you can get, the best honey in the world, all perfectly sealed, put in a place where it has a chance to attract moisture and leave it there long enough, and it will leak through the combs.

Mr. Hogge—There was other honey right with it that didn't do it.

Dr. Miller—The probability is some of the honey was less ripe than the other. Allow me to step just to one side of the question a little. None of it ought to have been allowed to become thin. The place was unfavorable to evaporation, and it was favorable to the attraction of moisture. The best honey that was there was probably hurt a little by being there, but the thinest of it would weep through the cells. Although honey may be taken from the hives so ripe that it doesn't need any more ripening, I should, if possible, put it in a place where it would ripen more, and if you put it in a warm, dry place it will be constantly getting a little thicker and better.

Mr. Dean—We used to have some difficulty with our comb honey in Pennsylvania when we kept the Italian bees. We had some Italians and blacks. The honey from the Italians was sealed directly on the honey. The honey would swell a trifle, seem to sweat, and there would be a bubble of water on it, while honey from the blacks, in the same place, wouldn't do that. We discarded the Italians entirely. I think that was the trouble perhaps with this gentleman's honey. When the bees cap it directly on the honey it has no chance to expand, and the consequence is it seems to force water.

Dr. Miller—It is true, there is a difference, as has been suggested in that fact. I have had Italians that would do that very thing. They fill up the honey too close to the capping. The blacks I had were a great deal worse than any Italians I ever had. As a rule the blacks will produce better looking honey.

Mr. Dean—I wouldn't be sure but what I got those Italians from Dr. Miller!

Mr. Hogge—It was my fault, and not the fault of the bees. I had some honey that came off of the very same hive, and it did not act that way.

SWEET CLOVER HONEY.

Pres. York—"How many have found that people are prejudiced against sweet clover honey?"

Six raised the hand.

"Is there any way to remedy such flavor?"

Mr. Hintz—Does that mean comb or extracted? If comb, it wasn't well ripened. I never had that trouble.

Mr. Chapman—I asked that question, and I never extracted any honey that wasn't sealed. I took it the second week in September when it was perfectly ripe, and any that lacked sealing I put down for the bees, and I have still had people object; I myself object to the sweet clover as being rank.

Mr. Hintz—My experience is that if sweet clover honey is entirely sealed over, and a long time in the hive, it doesn't taste rank.

Mr. Mooney—My honey in the early part of the season doesn't taste like what I get later. The early-flow honey taken away doesn't have the chance to ripen as it should, and I know that mine was strictly sweet clover honey in the fall.

Mr. Chapman—The honey wasn't taken until the first or second week in September, and I ripened it. I have since moved my location, and have honey from asters and I have none of that trouble.

Mr. Hintz—Mine has never given me any trouble when properly ripened.

Mr. Whitney—Was that honey, when you extracted it, thick or thin?

Mr. Chapman—Good, thick honey; five gallons will weigh 60 pounds. I call that thick honey.

Mr. Purple—In my locality I get nothing but straight sweet clover honey, mixed in August with burdock, and I notice that the honey we get first after blossoming is our best honey. Just the time the sweet clover is in blossom is the best. As the season advances it gets stronger. I extracted July 14, but I never extract until it is all sealed over, and the first extracting is always the whiter.

Mr. Chapman—Isn't that mixed with white clover? When the honey is thus mixed—in my present location I get it that way—it is the finest. When I had the pure sweet clover nearly every one objected to the flavor.

Mr. Purple—The latter part of July the white clover is all gone, even burdock. Then it comes in nearly white, and it is as nice a honey as I get during the season in the middle of the flow.

Mr. Chapman—Ever have any objection to it?

Mr. Purple—I have customers who don't ask for any better honey than that honey. They will go to the market and buy samples of honey, and it is good honey, but still they would rather have the sweet clover honey than have that.

HONEY TAKING COLOR FROM DARK COMBS.

"Is honey darkened by putting into dark combs by the bees?"

Mr. Riker—That is one thing that I have seen and read considerable about, and I have tested it in every possible way, and find that it will take color from the comb. Water put in such comb will pick up the dark color, but honey will not. I never have been able to discover that the honey would take any coloring of the dark comb. One time, at the State Fair of Iowa, a gentleman made a remark that dark comb made dark-colored honey. I told him that was opposite to my experience. I never noticed anything of that kind. It is the fact, he said. I looked about. He had some bees there in a little glass box, and comb, and I discovered that the comb was black, but there was a little white honey around the edge and it appeared to me that that was white honey. I asked him if he would permit me to take some of the honey out of the blackest comb and a little honey out of the whitest comb, to compare with each other. He took the dark comb and put a sample of the honey on a piece of paper, while I took the whitest and put it on a piece of paper, and put it by the side of the dark. We then presented it to the crowd standing by for them to judge. Every person decided that the honey I took out of the black comb was the whitest. I took a little advantage of the old gentleman when I took the honey out, as I spread it *thin* on the white paper. When he took it out of his comb and put it on he left it perhaps twice the thickness of the paper. After they had all decided mine was the whitest I told them it was the same honey. Then I showed them and the old gentleman how I had taken advantage of him, that the honey that I put on I spread out more than he did his; but when I came to spread his down to the same depth as mine, they couldn't tell which was which. I have tested it. I have tried every which way, to see if black comb will color the honey. It will color water but not honey.

Dr. Miller—I wouldn't like to take either side of that, for I want to get out of this crowd alive. There are different views. There are some who say that black comb will yield honey just exactly the same as that in virgin comb, and yet there is this that is difficult to answer. Mr. Ricker knows black comb will be colored, and most of you who have had combs out in the rain, and left them out all night, when shaken out will notice it looks like ink. I saw an explanation of that the other day. I can't recall where I did see it. I am not sure but what it was at the Buffalo convention. Some one said honey is not watery, it is oily; that, therefore, the black coloring-matter cannot come into the honey because of its oiliness. We know pretty well, at least in my locality, that water is not oily, and honey and water will mingle together. There are those who make a business of exhibiting very fine, white honey, taking it from virgin comb, and they claim they had whiter honey by doing that.

Mr. Chapman—I made an engagement with a man who produces a great deal of honey to meet and determine that question. There was over a ton of honey produced in brood-combs, which had never been used for other purposes than breeding, and the first extracting was very slightly discolored, but the subsequent extracting was just as good as that in the new combs. We tried the experiment of filling the combs with rain-water, and found that the cocoons absorbed the water and allowed the material deposited to come through into the water, and into the cell, but honey didn't soak into the cocoon, and the first that was extracted was slightly discolored. You would have to have a great quantity in order to notice the coloring at all.

(Continued next week.)

Contributed Articles.

No. 6.—Bee-Keeping for Women.

Things Learned Only by Experience—Robber-Bees.

BY EMMA M. WILSON.

THERE are some things in bee-keeping that can be fully learned only by experience. Among these is the danger from robber-bees. No matter how much the beginner may be told about the danger, she will go on in blissful freedom from anxiety until she has one serious case of robbing, and then she will know what robbing is as no book or bee-paper can tell her; and after that she will always be on the alert.

During the time of a good honey-flow there is little danger in that direction. Honey may be left standing exposed for some time without causing any trouble; the bees pay no attention to it. They can get all the nectar they want from the field. But in early spring, or at any time during the season when there is not abundant nectar coming in, look out for robbers. There is danger. My, what a commotion a bit of honey carelessly dropped at such a time will cause! It would seem as if the bees had gone crazy. The apiary that a little time before seemed all peace and quietude is suddenly changed into a howling mob of angry, stinging bees. It would seem as if the entire apiary were engaged in the uproar, when in reality there may be only one or two colonies engaged in robbing. But it affects the whole apiary, for when that bit of honey is gone the robbers set out in quest of more spoils, and every hive in the apiary is likely to be tried. Every colony is alert and on the defensive. If any are weak or poorly protected look out for them. If the robbers seem to be getting the better of them, stop up all cracks where a bee can get through, and close the entrance, leaving only room for one or two bees to pass at a time. Then throw an armful of hay or straw over the entrance and soak thoroughly with water. That will dampen the ardor of the robbers, as they do not like to crawl through the wet hay, and they will most likely give up the fight. Under no

consideration open any hive at such a time, for the robbers will be ready to pounce in if you do.

You can very easily start robbing working with the bees without leaving any honey exposed, when there is a dearth of honey. If you are inexperienced they can get quite a start before you realize that they are robbers. If on opening a hive you see some bees flying with quick, darting motions, trying to get in; or if you see a bee alight on a comb, and it is promptly seized by one or more of the bees of the colony, you may be sure they are not honest bees; and if at the same time the bees of the colony you are working at are angry and excited, stinging without apparent provocation, you may be sure robbers are at work, and you would better close up operations, no matter how anxious you are to work. The only safe way to work at such a time is under a tent, where no outside bee can get in its work. Sometimes, by leaving the apiary undisturbed for a few hours, things will quiet down and you can go to work again. But you must be on the alert, and at the first sign of robbers you must be ready to close up promptly.

If a frame of brood or any honey has been left exposed, and the bees have got started on it, do not take it away from them and leave nothing in its place. If you do they will probably pounce upon the nearest hive and there will be a royal battle. You can take it away and put a comb without any honey in its place, or one that has a very little in it. That will satisfy them.

Dr. Miller often tells me that I am not as afraid of robber-bees as I should be. We have never had a very bad case of robbing, at least none that ended very seriously. The most we have suffered from robbing is having weak colonies robbed out in the spring. But they have got started enough a number of times to show what they might have done if we had not been able to control them.

A year or two ago Dr. Miller was called up in the middle of the night, and asked if he would not come and straighten up a man's bees. The man lived some six miles away. It was his hired man that came for Dr. Miller. He said that several hives had been knocked over, and the man had been so badly stung that he had had to go to bed, and send for the doctor, and there was no one else that could touch the bees. Dr. Miller told him that he could not do anything until daylight, but that he would come early in the morning.

I assure you it was a scene of desolation that we looked upon when we reached that apiary the next morning. He had quite a little apiary, had kept bees for years, but I imagine he had never had such an experience before. He had tied a young calf, with a rope long enough to reach the bees, to an apple-tree near the apiary. The bees stung the calf, and the calf commenced a mad race among the hives, as far as the rope would allow him to go, overturning hive after hive. In some cases the combs had been thrown entirely out of the hives, and it looked as if the calf, in its mad career, had run over them several times. Broken brood-combs filled with nice brood, combs of honey, bees and sections, were in a sad mix-up, and the bees were fast waking up to the fact that there was plunder to be had.

We straightened things up as best we could; got the hives back on their stands, and whenever it was possible we tied the brood or honey into the frames that were left whole; put the bees back into the hives where we thought they belonged, etc. Fortunately there was not much honey in the sections, so that simplified that part of it somewhat, but it was a little the worst wreck I had ever had anything to do with.

I think that man has had his lesson. I do not believe he will ever tie any animal near his apiary again. But it was expensive. McHenry Co., Ill.

Bleaching Combs to Make the Honey White—Bees Don't Hear.

BY C. P. DADANT.

ON page 52, a Mr. Krause proposes to bleach the combs of the extracting-cases in order to secure white honey, and suggests a weak solution of sulphuric acid for that purpose.

In the first place, I am not fully satisfied that the dark combs always give a color to the honey. We have been in the habit of extracting our honey for some 32 years, and the readers all know that we have been the champions of the special system of extracting all the honey. Yet we have harvested just as white honey as any one else ever did, when the nectar in the fields was white. We have used old combs. In fact we are still using combs which were built by bees in 1870, and we much prefer these to others ,because the bees seem to have strengthened them season after season by rebuilding the damaged cells. Yet I wouldn't like to set myself up against the numerous testimonials which say that honey is colored by being stored in old combs, but I hold that this coloring is exceedingly slight, and that in the instances where people claim that its color has been very perceptibly deeper the fault has lain more with an inaccurate examination. The bees do not separate their different grades of honey when harvested at the same time; but some colonies do get lighter honey than some other colonies, probably because their fields are different. For instance, I have seen some colonies harvest honey-dew when colonies adjoining them did not get a drop of this, their labors taking them to other crops.

Now, taking for granted that this coloring of the honey is a fact, and we have tried to remedy it, the most active agent in this change of color would be the yellow coloring matter which the bees seem to gather so plentifully when harvesting yellow pollen in the fall. This, in my opinion, is caused by the deeply colored pollen, and is so powerful as a dye that it is difficult to get rid of it. Wax-bleachers are well acquainted with it, and say that this is one of the most obstinate colors they have met. It seems to stay with the beeswax, and often will not allow it to bleach, but will remain in it. Acids have no effect upon it. This we know by our own experience, and we find that the red beeswax, which is produced in countries where these fall blossoms are found, still remains a deep yellow after purifying. Sun-bleaching changes this deep yellow to a paler shade, which never becomes quite white. If this is the coloring-matter which darkens the honey, it is useless to expect to get rid of it except by melting up the combs.

Now to come to the proposed process of soaking the combs in a solution. Even if we were to expect a decided change in the color of these combs by the use of a solution, it would be unadvisable to use it because it would be sure to leave a smell that would be objectionable to the bees, and very probably also a taste which would damage the honey more than the slight amount of coloring-matter which it was sought to remove.

Now as to combs blackened by brood-rearing. The only way in which these combs could color the honey would be if the latter was so thin that its presence in the cells would liquefy or dilute the hard substances which have gone towards making this dark color. Otherwise there is no possibility of a change in color. If the soaking of the combs in a solution of sulphuric acid were resorted to, the result would be a dissolving, by the action of the acid, of all the cast-skins of the bee-larvæ, and of all the refuse that colors these combs; but, as this exists in large quantities in old combs, there would be a very large amount of residue, and unless the cells could be washed clean afterwards, by repeated drenching, it seems to me that there would still be enough coloring-matter remaining to stain the honey. It is out of the question to make a dark comb white, short of melting it up in the rendering kettle.

If the extracting-combs are removed shortly after the crop, and put away till the following season, and if they are put upon the hives only a few days before they will be needed for storing the crop, there seems very little chance of their getting much stain. Of course they will get some color; this is unavoidable. But what percent of extracted honey is produced in new combs? Undoubtedly a very small quantity. And if there is any very light-colored honey produced with the extractor, it is evident to me that in many instances, at least, old combs have been used without injury to the color of the honey.

BEES DO NOT HEAR.

On page 62, A. H. Homersham (a quotation from British Bee Journal) says that he has proven to his own satisfaction that bees cannot hear. Well, we have all made those tests ourselves. There is probably hardly a bee-keeper who has not tried shouting when next to a hive of bees. But on these questions Cheshire says:

"Should some alien being watch humanity during a thunder-storm, he might quite similarly decide that thunder was to us inaudible. Clap might follow clap without securing any external sign of recognition; yet let a little child with tiny voice but shriek for help, and all would at once be awakened to activity."

We might add also that as the bees emit different sounds at different times, there is very likely some response to these. The only thing that we can knowingly assert is that there is no response to whatever noise WE may make, whenever this noise does not act as a disturbing element. Thus, as far as we are concerned, the bees do not hear.

Does Getting Bees Started In the Brood-Nest Seriously Interfere with Storing In the Supers?

BY G. M. DOOLITTLE.

A venerable tradition has come down to us, that allowing bees to get started storing in the brood-nest seriously interferes with their storing in supers. I have bowed to that idol long enough, and now stand up to say I don't believe there's a word of truth in it. So there, now!—Dr. C. C. MILLER.

I am half inclined to think the Doctor is right. If there is a supporter of that "venerable tradition," let him speak out.—E. R. ROOT.

By the time the surplus season begins (10th to 15th of June in this locality), the brood-combs will usually be exhausted of stores, or nearly so, and no work can be expected in the sections until these are filled to their utmost capacity; and the amount of the choicest honey of the season required for this purpose would be an important item if secured in the sections.—H. R. BOARDMAN.

But the persistence with which they (the bees) continue to store in the brood-combs at this time, is often disappointing—H. R. BOARDMAN.

The above are some items which appeared in print some time ago, and I have been waiting ever since to see if some one was not going to say something further in the matter, but so far this is all that has come to my notice as especially bearing on the subject. It would have been very interesting, indeed, to have had Dr. Miller give us the reasons he had for saying that he did not believe there was a word of truth in the doctrine as taught during the past, that if bees once got thoroughly started at storing honey in the brood-nest it would seriously interfere with their storing in sections. But I have not seen a single reason given by him in support of his disbelief.

And it would have been equally interesting had Mr. Root told us what he had run across in his bee-keeping experience which led him to be half inclined to think the Doctor was right in making such a sweeping exclamation against something which hundreds of bee-keepers believe they had proven true. But Mr. Root does not give us even a little bit of experience in support of his half think.

Mr. Boardman, on the contrary, tells us something which hundreds and thousands of bee-keepers have noticed, doing the same without even hinting at the unbelief of Dr. Miller, or the skepticism of Mr. Root, and probably wrote what he did without a thought that he was running counter to what those gentlemen believe. Were I asked which of the three was right, I should have to decide with Mr. Boardman, for all of my experience of over 30 years arrays itself on his side, and I cannot doubt my own experience.

When I commenced to keep bees I adopted the 12-frame Gallup hive, and thought that hardly large enough, as the colonies of bees that lived through at that time, year after year, were always the ones in very large box-hives, the colonies in the smaller box-hives being lost in winter more frequently than otherwise. Everything worked well so long as it was increase I desired more than surplus honey, but with the desire for surplus honey came the fact that I had the most of it stored in three or four combs occupying each end of the hive, these eight combs often containing from 40 to 50 pounds of the very choicest of honey, just as Mr. Boardman says is the case with him. Then, after these eight combs were nearly or quite filled with honey, the bees instead of entering the sections, would, as Mr. Boardman says, persistently continue to store in the other four brood-combs, instead of taking to the sections, until, at the end of the honey harvest, if it continues long enough, the colonies in such hives would be very small in numbers, the combs crowded with honey, and very little in the sections for Doolittle.

As soon as I saw where the real trouble lay, I reduced all of these 12-frame to those holding 9 frames, then worked these hives so that each of the nine frames were solid with brood when the honey harvest commenced, upon which the bees would immediately enter into the sections with their honey (as they had nowhere else to put it), when I had something which gave me from double to three times the yield of nice, salable honey that I had ever had before. Yes, and I used dummies in a part of these hives, too, for any colonies that did not give a prospect of filling the nine frames full of brood by the time the honey harvest was on, were confined to the number of combs that would be fully occupied with brood, even through that number was as few as five or six. The older readers of the American Bee Journal will remember my writing several articles on "those six-frame hives," telling how they were worked, and how, in 1877, I secured the unparalleled average yield of 166⅔ pounds per colony from the whole apiary, nearly all of which was nice, marketable honey.

And then to have Dr. Miller stand up and say that he doesn't believe there is a word of truth in it (not in the yield of honey, but in the plan), seems strange to me. Will he kindly tell the readers of the American Bee Journal the reasons he has for his unbelief, or give them a better plan, if he has one. I am very anxious to learn, and if there is a better way than the one I have been following I would gladly follow it. And if it is better, the giving of it will be a blessing to the giver, and also a blessing to the bee-keeping world. Onondaga Co., N. Y.

Fertilization of Fruit-Bloom by Bees.

BY DR. C. C. MILLER.

ON page 280, Mr. Thaddeus Smith makes an assertion that is entitled to consideration, to the effect that he thinks bees are not needed on certain islands to fertilize fruit-blossoms, and then asks: "If not necessary on these islands, why should they be anywhere?"

Mr. Smith found a small number of "nectar-loving insects" present, and it is possible that they could do all the fertilizing that was needed, while in other places the number of such insects may have been less, so that there would not be enough of them to do such fertilizing without the aid of the bees.

The testimony of Mr. Smith should be given all the weight to which it is entitled, but he should remember that testimony has been given on the other side that is equally entitled to consideration. That testimony has been given by many—some of them experts with no possible bias in favor of the bees, men of ability on both sides of the ocean—and however honest in his opinion, he should hardly ask us to throw to the winds the testimony of a number of men supposed to be competent and trustworthy, just because the testimony of one man is different.

The following item appeared in the American Agriculturist of Feb. 15, as a reply from the extensive greenhouse man, W. W. Rawson:

How many colonies of bees do you keep in your house 300 by 40 feet when cucumbers are fruiting? "Usually four colonies are required for a single house, and they are put in just before the blossoms begin to open, so that they are ready for work as soon as the flowers are ready to receive them. Early in April the old colonies are taken out and new ones put in. We contract for our bees at $5.00 per colony and use about 50 colonies each season. We usually lose about one-half the colonies, even after the most careful attention is given them. Many of them get out of the house through the ventilators, and are unable to return. Many others lose their lives in the house and various places; but we find it absolutely necessary to keep the house well stocked to insure fertilizatiou and thus good fruit."

It will be seen that it costs at least $125 a year to have these bees as fertilizers. Does Mr. Smith think it at all likely that this expense would be endured each year if the bees were not needed as fertilizers? McHenry Co., Ill.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

NO PROGRAM FOR BEE-FEVER PEOPLE.

Very true, very true; two men afflicted with bee-fever do not need any program when they meet, and couldn't possibly be made to follow one if somebody should make it. Same of a live convention, I suspect. But when Dr. Miller swung on the ball the next time he didn't do quite so well. Went out on a "fly," as it were, seeing he couldn't go out on a bee. To the conundrum "What's the best honey?" he just said, "The bees' honey." The correct answer is "The bridegroom's." Page 213.—[Of course it's none of our business, but we'd like to know how Mr. Hasty knows. We believe he has never "dared" to be a bridegroom.—EDITOR.]

SWEET CLOVER HONEY.

Sweet clover 12; white clover 8; alfalfa 3; orange 2; basswood 1; California sage 1; buckwheat 0; sweet clover mixtures 3. The commanding lead of sweet clover honey at the Chicago convention surprises me. I had supposed the apicultural world was settling down into the belief that sweet clover honey had a bad flavor. Can well accept the

correction that extracted too soon, and not properly ripened, is the real trouble—that is, for the most part. Perhaps I can add one more important consideration. Almost any nectar which has a decided flavor is liable to be dreadfully over-flavored *when the yield is very scant.* Nature seems to pour in her little spoonful of flavoring extract without much regard to whether she is pouring into a gill or into a barrel; and in the former case she made a bad mess of it. Apple honey has a reputation for being bitter from this cause. Sweet clover in many regions is rather more liable to scant yield than are most of the flowers we look to for honey. Page 213.

THAT "STEAM BOTTOM-BOARD."

It occured to me that Mr. Dupret failed to indicate to us where the steam should be turned on to run all these little parts and items of his steam bottom-board. But then critics are liable to get over-critical a great many times. Page 214.

GETTING EXCITED BEES OUT OF A CELLAR.

The experience of C. Davenport in getting an awful stack of excited bees out of a too contracted cellar makes an instructive anti-climax to the experiences of Dr. Miller. Surely circumstances alter cases. Perhaps some who never had any such troubles think they could have weathered the situation all right. Old maid thinks she could have made an angel out of the "enfant terrible." Every one could have managed the bad wife save the poor fellow that had her. Editors could always succeed at farming, and farmers always succeed at editing. But don't ask me to succeed at Mr. Davenport's job. My advice to the young brethren is: Don't get into any such a scrape in the first place. Pages 215-217.

BEES PERISHING WHILE "CLEANING HOUSE."

So two bee-brothers came to an agreement that quite a lot of bees perish by "cleaning house" while in the cellar. It stands to reason that the bee which tumbles to the floor with a dead bee it is dragging off is not likely to get back again. Outdoors they frequently fly off with the dead; but I don't think they would try that in the darkness of a cellar. A fence half an inch high terminating the exposed edges of the bottom-board would make it impracticable to drag the dead any further. And the fences could be made of strips of tin, or even of stiff paper. But, let me see, bees even at two dollars a pound would be 22 for a cent; and I am not sure you could not save enough to earn wages while erecting your fences. Page 221.

EXPOSED BROOD AND ROBBING.

As to page 222, I have my doubts whether setting out a frame of brood for a few minutes would incite robbing any worse than setting out an adjoining frame from the same hive with no brood in it. If, in mending combs or transferring, you scatter small chunks of mangled brood on the ground and leave them there, the consequences may make you *think* that brood is specially "bad medicine" for robbing.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Fumigating Brood-Combs.

The past winter was a hard one on bees. I am 10 colonies short, all last year's swarms, and I have 80 frames of nice, white comb, and want to keep them from the moth. I have had lots of trouble in keeping them clean.

I now have a nice house, 12 by 18 feet, for a honey-house and a workshop, full 8-foot story, with floor above and room to store odd stuff. Now I have some 1-inch square pieces, 18 feet long; if I were to nail these to the under side of the upper joists and hang the frames up there, could I fumigate them with brimstone, or something that would kill moths, eggs and all?

I have a little honey on hand, all in tight shipping-cases. Would that be hurt by the fumigating? Tell me all you know on this line.

The rest of my bees seem strong and in good shape. Last summer I ran out of hives, and put 7 swarms in cracker-boxes, with frames and starters; then I sent for 5 hives, and in the latter part of the season I lifted out the bees, frames and all, and put them in the new hives, all in good shape. The 2 left in the cracker-boxes came through all right. The boxes were on bricks facing the south, and covered nearly all over with snow for some time. The box is only ⅜ inch thick, with 1½ inch space at each end, and covered over bees, with ½ inch space above the frames.

ILLINOIS.

ANSWER.—Brimstone will do no good whatever in killing the eggs of the moths. It will only kill the larvæ, and will not make the very best work at that after the larvæ have attained full size. If you put the frames in a small space, and brimstone them very heavily, you might succeed in killing the larvæ, but it would take another fumigation after all the eggs were hatched. In so large a room as you have you would hardly make a complete job of it with the frames hanging at the top of the room. No harm, however, would come to the honey in the cases.

You will do better with bisulphide of carbon. That will kill eggs and all. Read up about it in back numbers of this journal, especially in the report of the Buffalo convention. Make two piles of your combs, putting them in hive-bodies, five in a pile; set an empty hive-body on top, and set in it a saucer containing bisulphide of carbon; cover up tight, and leave covered 24 hours. But don't bring a light near it to blow you up.

Perhaps it may be as well, or better, to let the bees attend to the job. Put a hiveful of the combs under a strong colony, and you may feel sure the bees will clean them out and keep them clean.

Making Increase by Dividing.

Is it time for me to jog your memory (as you suggested) so that you would give me a plan for making increase by dividing, or artificial swarming, in the American Bee Journal?

Will there be time enough if I get a queen in June, to make some nuclei and give them cells from the new queen? How shall I go to work to do it?

I wish I lived near some one that made it a business to keep bees, but as a rule my neighbors know less than I do. One old farmer told me the drone-bees laid the eggs for the swarms. Did you ever see such ignorance?

We are having a cold April—a great deal of rain—but hope soon for spring weather. CONNECTICUT.

ANSWER.—Let me answer your questions without taking them in their exact order. Although too early yet in your locality to take any active steps toward artificial increase, it is none too early to study up plans with regard to it.

If you get a queen in June, there will be plenty of time for you to make colonies queened by her royal progeny. There are different ways of proceeding. I'll give one that I think appropriate for those with only a few colonies:

The first thing is to get your new queen in a strong colony. If the colony is not very strong when she is first introduced (and it is usually a little easier to introduce into a colony not too strong), you can strengthen it by drawing from others. A frame of brood, as nearly as possible all sealed, will in a short time add considerably to the strength of the colony. Indeed, a comb may be so well filled with brood that four of them, when the brood has all hatched out, will make 20,000 bees—not a bad colony. Be sure never to give more brood than the bees can cover; that would be a waste. You may, however, give more than the bees can cover, if, with the brood, you take the adhering bees. But if you put in too large a proportion of strange bees there is danger that the queen may be attacked. If there are three frames of brood already well covered by bees in the hive, there is probably no danger in introducing a fourth frame with bees from another colony. But it might not be safe to introduce two frames from another colony, for that would make too strong a proportion of strange bees. If you add more than one frame of bees, it is safer to take them from different colonies. If you use bees that have been queenless 48 hours or more, you may have little anxiety about adding any number. These remarks apply to strengthening either nuclei or full colonies by taking brood or bees, or both, from other colonies. Remember that it is safer to use queenless

bees when convenient, although there is little danger in taking from colonies with queens if you do not take too large a proportion from any one colony. The safer way, if not to slow, is to take brood without bees. I may say, however, that in my own practice it is rarely the case that I take brood without bees, and the few exceptions are generally because I cannot find the queen in the colony from which I take the brood. Of course, the queen must always be found if the bees are taken, otherwise she might be taken with the bees.

If you have the material to spare in other colonies, you may make the colony with your choice queen so strong that it may require two or three stories to hold the frames, or you may do with only one story. The colony will now be made queenless, but at least six days must elapse after giving the last brood to the colony, else you may have queens reared of the wrong stock. Take two frames with the queen and adhering bees, put them in an empty hive and set on a new stand. Nine days after you have made the colony queenless you will form your nuclei. Into each hive put two frames of brood with adhering bees from the queenless colony. There will be some honey in the frames you use, and it will be an additional advantage if you can give each nucleus another frame containing some honey. The bees, being queenless, will not be much inclined to desert their new localities, but you can help matters by plugging up the entrance with green leaves. A day or so later you may open the entrances, and if you happen to forget it no great harm will come, for the green leaves will dry and shrivel so that the bees themselves will open a passage.

If you use up all the material of the queenless colony, as probably you will, there will be nothing left on the old stand. Take the hive that now contains the queen, put it on the old stand (of course you will fill the hive with combs or foundation), and put in its place one of the nuclei.

Nothing has be said about queen-cells. They will be on different parts of the combs, some of them where you want them, but mostly where you do not want them. Cut them out, where wronglyly placed, and see that each nucleus has at least one good cell—better have two or more in each nucleus—the cells being between the combs and centrally located, so there is no danger that they will get chilled. You may fasten each cell in place by pinning it on with a slender wire nail or a pin 1½ inches long; and it is still better to fasten it on by means of a staple an inch wide, or wider, making sure that in no case the cavity of the cell shall be punctured.

In two week examine each nucleus for young brood or eggs, and if you find none a mature queen-cell may be given, provision for such queen-cells having of course been made in advance. Whenever the young queen is laying, you may build up the nucleus to a full colony in the manner already given.

Comb Honey Wanted Instead of Increase—Buying Hybrid Bees—Foundation in Sections.

I have 17 colonies of bees, 11 of which I think contain 3 or 4 frames of brood now, the remaining 6 being weaker.

I have intended following the plan Mr. Doolittle outlined in his book on "Scientific Queen-Rearing," of stimulating brood-rearing by reversing the brood and supplying them with honey inside the brood-nest. My object is to secure as much comb honey this summer as possible, instead of making an increase.

1. When would you advise me to begin active operations here, where our main honey-flow is from sweet clover, although we have some white clover?

2. Would it be possible for me to build up all of these colonies by equalizing the brood in the manner you described in the last number of the American Bee Journal, or would it be good to follow Mr. Doolittle's plan of uniting the weak colonies, by which I understand that I would have 3 less colonies for the production of surplus, 3 of them forming nuclei.

3. Under these circumstances, if I should buy bees, would it be best to buy full colonies, or nuclei? That is, would I be able to build up nuclei purchased now, so that they would produce surplus this season?

4. I notice an advertisement in the Bee Journal of hybrid bees for sale. Would it be well to purchase such bees, or would they be objectionable for some reason?

5. Will you please tell me what amount of foundation you use in section-boxes? It should not extend entirely from the top to the bottom of the box, should it?

ILLINOIS.

ANSWERS.—1. So far as the season of the year is concerned, there is little danger that you will begin too soon, but there is danger that you may begin before the bees are strong enough to be meddled with. Take a colony that has no more bees than just enough to keep warm what brood it has, put a frame of honey between two of its frames of brood, and you will have a lot of chilled brood. So don't begin until you have so strong a force of bees that they can take care of more brood than they are already covering. In many cases that will mean not to begin at all, for an ambitious queen under favorable circumstances may keep all the cells supplied with eggs that the bees can care for.

2. I don't know, for I am not sure from what you say how strong yours are. You say your strongest colonies contain three or four frames of brood. If by that you mean there is brood in three or four frames, that's a very uncertain quantity. For it sometimes happens that when there is brood in four frames, the two central frames will each have a patch three to six inches in diameter, while in each outside frame there will be a patch much smaller, the brood in all four not being as much as one frame would easily contain. If, however, you have three or four frames well filled with brood, say three-fourths full each, then there ought to be no trouble in bringing all up to full strength for the sweet clover, and perhaps for the white clover. At any rate, if you follow the instructions on page 266, you will do nothing with the weakest till all the others are strong; and if you find that crowds too hard on the time of harvest you need not do anything at strengthening the weakest.

3. I don't know. It depends on the strength of your colonies, and the strength and number of the nuclei bought. If honey is your object, perhaps you will do as well with what you have.

4. Hybrid bees are often objectionable on account of their tempers. But they may be good workers, and it is not hard to change them to Italians; at least you need not increase from them, and then you will not be getting any more on your hands.

5. The top starter is 3⅞ inches wide and 3¼ inches deep. The bottom starter is 3⅞ wide and ⅝ deep. That makes the starter extend clear to the bottom, of course, but there is a space of something like ¼ inch between the two starters. About the first thing the bees do in the section is to fasten the two starters together.

Introducing Queens.

As I have received queen-bees from a large number of different queen-breeders in the last 15 years, also this spring, I should like to ask in regard to one I received a few days ago. When the queen was shipped he also dropped a card requesting me to kill all escort bees.

1. Why would he advise me to kill the bees? Do you think he has any bee-disease in his apiary?

2. If removing the bees is any advantage, at what time should they be removed? When you put the cage in the hive, or when you remove the plug in the cage?

WISCONSIN.

ANSWERS.—1. It is not likely that he instructed you to kill the escort bees because they were diseased. A man dishonest enough to send diseased bees would be dishonest enough te keep quiet about it. The probability is that he believed that the presence of strange worker-bees would hinder the cordial reception of the queen; and it is quite possible his belief is correct. The deportment of the queen herself has something to do with her reception, and she may not be so ready to make friends with strange bees so long as some of her own daughters are at her side. Besides, the bees of the queenless colony might have some animosity to the strange workers, which would make them less friendly to the queen. In most cases, however, the queen will be received kindly without her escort being killed.

2. If the escort is to be killed, it should be done before the cage is put in the hive at all.

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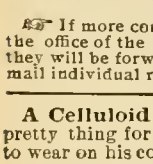

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

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Weekly Budget.

WISCONSIN BEE-KEEPING is the title of Bulletin No. 2, just issued by N. E. France, State Inspector of Apiaries. It contains about 80 pages, and is fully illustrated with pictures of bee-fixtures, Wisconsin apiaries, etc. It is really a pamphlet on practical bee-keeping, by a practical apiarist. This Bulletin is not for sale, but for free distribution among Wisconsin bee-keepers only, of whom there are reported to be over 10,000. For a copy, address Mr. France, Platteville, Wis., who will see that a copy is mailed you---if you live in Wisconsin.

FRANCOIS HUBER—A BLIND DISCOVERER.—One of the most beautiful stories in the world is that of a blind man, his devoted wife, and his faithful servant, who lived in Switzerland in the middle of the eighteenth century. The name of Francois Huber is known to every naturalist; but greater than his work was the man himself, and his life story is worth reading by every young man or woman who to-day wants to make the best out of life.

It did not seem as if Francois Huber could make anything out of life, for, though his father was a scientist, and the boy had the best of teachers, he became practically blind at the age of fifteen. The same disease which

FRANCOIS HUBER.

caused the blindness of Milton attacked him, brought on by much study at night in insufficient light, and by inteuse application to his books when his health was not equal to the strain. His father, in alarm, took the lad to Paris, where Tronchin, the famous physician, ordered him at once to give up all study and try life on a farm. So Francois Huber went to work like a peasant lad, following the plow. In a short time his health was completely restored; but, alas! his eyesight was not a whit improved, but rather the worse for the experiment. The highest authorities now pronounced the disease incurable, and darkness day by day closed in upon him.

Although so young, Francois had yet a sweetheart, Marie Aimee Lullin, the daughter of a prominent Swiss official. The boy and girl had loved each other from their earliest school days, and, though the father vigorously objected to his daughter's betrothal to a blind man, Marie never faltered in her devotion to Francois. Her father forbade all communication between them, and she obeyed; but, when she came of age, her first act was to marry the man she loved, and the marriage proved ideally happy. The blindness of Francois only drew out the ex-

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will always apply via the Nickel Plate Road and its Eastern connections to all points in New York, New England, and the Eastern States. Three daily trains to Ft. Wayne, Findlay, Cleveland, Erie, Buffalo, New York and Boston. Standard equipment on all trains. Meals served in dining-cars, on American club plan, at prices to suit passenger, from 35 cents to $1.00 per meal. For particulars call on or address, John Y. Calahan, General Agent, 111 Adams St., Chicago. Depot, Fifth Ave. and Harrison St. 'Phone Central 2057. 2—18A3t

BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES.

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.

512 MASS. AVE. INDIANAPOLIS, IND.

quisite devotion and tenderness of his wife's unselfish nature, and when, after 40 years of perfect companionship, she was taken from him, he summed up his loss in one pathetic sentence: "It is only now that I realize that I am blind." She was his reader, his secretary, his helper, and neither the cares of her household nor her children were ever allowed to interfere with her untiring service to his every need.

With her help, Huber began his life work—the study of bees. When we consider what powers of close observation are demanded for this sort of work, we can not at first understand how a man, totally blind, could follow the minutest habits of insects, and make discoveries which the most patient investigators before him had failed in making. But, besides his wife, Huber had a servant, a peasant named Burnens, whom he soon found to be "born with the talent of an observer." With infinite patience, by asking a thousand questions, and repeating each observation over and over again, Huber trained this uneducated man into an accurate investigator, upon whom he could rely. Burnens was deeply attached to his master, and willing to take any trouble to please him.

"It is impossible," Huber says, in his preface to his great book upon the bee, published in 1792, "to form a just idea of the patience and skill with which Burnens has carried out the experiments I am about to describe. He has counted pain and fatigue nothing. If there be any merit in our discoveries, I must share this honor with him; and I have great satisfaction in rendering him this act of public justice."

Huber had other interests outside of his bees. Like them, he was ever at work. He invented a sort of printing machine, by means of which he could write to his absent friends—and no man had more friends, or loved them more loyally. He was passionately fond of music, and could compose as well as execute. He loved to walk in the open air, and had knotted cords stretched beside the rural paths near his house, so that he could walk without troubling any one to lead him. As we read his life, we find it not a darkened one, but one full of light, and affection, and sweet compensation. It was a long one, too, for he died in 1832, at 82, full of years and honors, leaving behind him the memory of a noble and victorious fight against a great affliction, under which most men would have given up hope of achieving anything. His work was great; but the greatest thing about Francois Huber was his character, of which indeed it might be said that it had that

"Equal temper of heroic hearts
Made weak by time and fate, but strong in will
To strive, to seek, to find, and not to yield."

—Priscilla Leonard, in Forward.

Mr. F. Greiner, of Ontario Co., N. Y., wrote us on May 3:

"Our bees have wintered well, although the spring has not been favorable so far."

The Attic Apiary of Rev. W. S. Sly, in his beautiful residence, appears on the first page of this issue. He writes us as follows about it:

Four years ago I built a house, located within 2½ blocks of the Capitol building. Other houses are built on all sides of me. There seemed no way of keeping bees unless I carried out a long-cherished plan of having an attic apiary when I became my own landlord. The high attic—full size of upright and rear wing—is floored, lathed and plastered. A stationary hive was built in a south gable to begin with. An entrance and alighting-board were made of one piece, with side-pieces and wire-screen cover reaching from the hive-entrance through the clapboards.

Purchasing a strong colony in May of the same year, half of the frames with brood and clinging bees were transferred to the new hive, leaving the queen in the old hive, which

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

Bee-Keepers—Attention!

Do not put your money into New Fangled Bee-Hives, but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

Thousands of Hives, Millions of Sections, ready for **Prompt Shipment.**

G. B. LEWIS CO., Watertown, Wis.

Let's Get Together.

Do you want a new carriage or buggy, and do not want some dealer to make a big profit at your expense? Order one of our

Split Hickory Vehicles.

Take it from the depot; hitch to it; run it for **Thirty Days,** and if you find it the best rig on the market, pay for it. If not, send it back; we don't want you to keep it. How can we afford to do this? Well you see, we are making the best line of vehicles on the market, and are not afraid to have you pass judgment on them. Full details in our new illustrated catalogue, which we send free. It also shows our fine line of harness.

OHIO CARRIAGE MFG. CO.,
Station 6, Cincinnati, Ohio.

Have You Seen Our Blue Cat-

alog? 60 illustrated pages; describes **EVERYTHING NEEDED IN THE APIARY. BEST** goods at the **LOWEST** prices. Alternating hives and Ferguson supers. Sent FREE; write for it. Tanks from galv. steel, red cedar, cypress or fir; freight paid; price-list free.

KRETCHMER MFG. CO., box 90, Red Oak, Iowa.

Agencies: Trester Supply Co., Lincoln, Neb.; Shugart & Ouran, Council Bluffs, Iowa; Chas. Spangler, Kentland, Ind. 12E26t

The Business End of the NEW RUMELY SEPARATOR

Like all the **"Rumely Goods"** this is simply perfection. When coupled to our **New Rumely Rear Geared Traction Engine** they constitute a threshing outfit that not only makes big money for the thresher, but saves grain and money for the farmer. They are durable beyond comparison and when you buy them you are done buying for years to come. Take a little time to think about how it would pay you to own such an outfit, then write us for free catalog.

M. RUMELY CO., La Porte, Ind.

Fancy Glassed Comb Honey

Any bee-keepers in New York or Pennsylvania producing either White Clover or Raspberry Fancy Comb Honey (in glassed sections), will find it to their interest to write to the undersigned at once.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

29 YEARS SELLING DIRECT.

No. 391 Buggy. Price, $59.00. As good as sells for $25.00 more.

We are the largest manufacturers of vehicles and harness in the world selling to consumers, and we have been doing business in this way for 29 years.

WE HAVE NO AGENTS

but ship anywhere for examination guaranteeing safe delivery. You are out nothing if not satisfied. We make 195 styles of vehicles and 65 styles of harness. Our prices represent the cost of material and making, plus one profit. Our large free catalogue shows complete line. Send for it.

No. 740 Open Stanhope. Has ⅝ inch Kelly rubber tires. Price, $82. As good as sells for $50 more.

Elkhart Carriage & Harness Manufacturing Co., Elkhart, Ind.

Going for the Doctor

through the storm and darkness while the suffering one at home is in danger, perhaps of death, is a terrible trip. Why not have a good, sure family remedy in the house? One that has proven a life saver in thousands of cases during the last forty years.

Watkins' Vegetable Anodyne Liniment.

Think what a world of terror and anxiety was saved this man.

DISPENSES WITH DOCTORS.

Middle Grove, Illinois, June 4, 1901.

We have used Watkins' Vegetable Anodyne Liniment in severe cases of flatulent colic: have employed veterinary surgeons before, but rely entirely on Watkins' Liniment now, for family use as well as for stock. WALTER DIKEMAN.

Watkins' Liniment is not only a great thing in cases of serious injury through accident, but is always helpful in cases of Cold, Colic, Diarrhoea, Dysentery, Indigestion, Cuts, Burns, etc. It is equally good for **man or beast.** If by any chance we have no agent in your vicinity, write to us, and we will see that you are supplied.

A TREAT FOR ALL.

Our new Cook Book and Home Doctor, containing a hundred pages of valuable information in cooking, gardening etc. is out for '02. We mail it free to anyone sending his name and address on a postal card. Write at once and address

J. R. Watkins

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10 Liberty St. Winona Minn., U.S.A.

Please mention Bee Journal when writing.

The "MUTH'S SPECIAL" is a REGULAR Dovetail with a COVER and BOTTOM-BOARD that is ABSOLUTELY WARP-PROOF, therefore the best dovetail Hive on the market. Our illustrated catalog explains it all. You can have one by asking. We sell the finest Supplies at manufacturer's prices.

Standard Bred Queens. None better than our BUCKEYE STRAIN of 3-Banders and "MUTH'S STRAIN GOLDEN ITALIANS," by return mail. 75c each; 6 for $4.00. Safe arrival guaranteed.

THE FRED W. MUTH CO., Front an Walnut Sts., CINCINNATI, OHIO.

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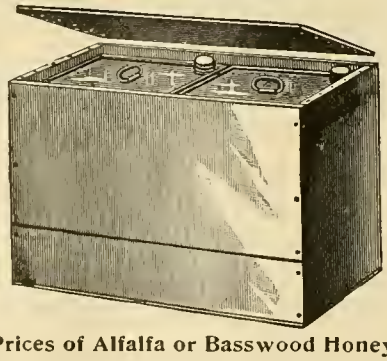
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

was placed in another gable. The empty spaces in both hives were filled with new frames with starters.

The hive containing the old queen was worked for honey, and to test her longevity. It was done by giving large storage-room in early spring. She died the past season, having become unfertile, aged over 5½ years, the colony having given over 60 pounds of comb honey each year after the first.

The other half of the original colony was worked for increase, and last spring showed 10 strong colonies, which, by autumn, had increased to 24---all but 2 by natural swarming---and over 600 pounds of choice honey for the season, half in pound sections, 113 pounds of which was from a single colony, and sold for 15 cents per pound, wholesale.

Most of the hives have each a glass end and side; so have the section-holders and extracting supers, heavy curtains excluding the light.

The bees have not disturbed any one, as they fly so high; when they swarm, passers---like the priest and levite---"go by on the other side" until the bees cluster on a tree or shrub on the lawn, or in the garden at the rear of the house.

No change is made in the condition or covering of the hives, summer or winter, save to put on or take off section-holders and extracting supers.

The bees have no chance to disturb the operator nor rob open hives. When a few get out into the room they dash for the windows-screens and pass out through the bee-escapes.

The plan is an unqualified success. The average profit on each colony the past season was $7.00, not counting the increase.

WINFIELD SCOTT SLY.

GENERAL ITEMS

Colonies Strong for the Season.

Bees are in fine condition and strong for the season. The western hot wave has not reached this part of the world.

HENRY ALLEY.

Essex Co., Mass., April 23.

Shade for Hives.

I saw it recommended to plant artichokes for hive-shade. I do not think I should want my hives in an artichoke patch. I want the hives where I can see them, and when there is a breeze they can get the benefit of it.

For shade I put a stone on top of the hive, and then mow grass, weeds and artichokes, and put them on top. Mow in the evening or morning, and put it on green or wet. It will surprise you to see what a good shade you will have. Do not put the stone on top of the grass, for, if you do, when it rains it will run down under the stone and keep the top of the hive wet. By putting the grass on top of the stone, green or wet, when it dries you have a fine shade that will shed rain and keep the hive cool. The stone on the hive leaves an air-space under the grass.

Winnebago Co., Iowa. L. C. GREEN.

A Word for the Cyprian Bees.

On page 232, Mr. E. E. Hasty, in his "Afterthought," makes some assertions which I think, to many, will convey ideas which he did not intend.

Mr. Hasty does not say what races he designated as the longest and shortest tongued, but from all recent measurements we are led to think he refers to Cyprians as the longest, and blacks as the shortest. This has been the result of measurements made by Profs. Gillette, Benton, and many others.

Mr. Hasty says, in his article, that the short-tongued race beats the long-tongued race in storing section honey. Whoever heard of Cyprians being recommended for work in sections? Evidently Mr. Hasty implies that blacks gather more honey and cap

it better. I grant the latter, as they do not fill their cells as full before capping, thus giving their combs a better appearance; but as to their surpassing Cyprians in gathering power, even the most prejudiced have admitted that Cyprians are the greatest honey-gatherers. Even Mr. Doolittle says they have excellent storing qualities.

For extracted honey the Cyprians are most certainly far superior. They fill a place in American apiculture that no other race can occupy.

There seems to be much prejudice against these Eastern bees, but in spite of all opposition they are steadily gaining in popularity, which, though not exactly in accordance with Mr. Hasty's statement, that they have been universally abandoned, is an actual fact.

I grant that tongues "are not all;" yet when long tongues urged on by such ambition as is universally accredited the Cyprians, the results must be obvious to all unprejudiced bee-keepers. Doubtless Mr. Hasty's views are due to his "new and unreliable glasses."

I do not sell bees or queens of this race or any other, but wish for facts rather than individual prejudice. B. E. GOODNOUGH.

Orleans Co., Vt., April 17.

A Bee-Keeping Woman's Dress.

I read recently an interesting article on "Bee-Keeping for Women," by Emma M. Wilson. I wish to suggest to her, and to other bee-women, the wearing of bloomers instead of an underskirt for bee-work. They will find them much lighter than an underskirt, and, besides, more protection from the bees. Bloomers are best made of blue drill or denim. I also wear leggings of the same material; that is so I can wear low shoes. I like a duck skirt and a gingham apron, as the gingham washes much more easily than denim. I wear gloves made of white duck, if I get into a hive that is inclined to be cross. I keep them in my pocket, handy, or else near by on a hive. I wear a black tarletan veil. MRS. N. O. PENNY.

Brevard Co., Fla.

Artichokes for Hive Shade.

Bees are working now, having wintered in fine condition. Wild and tame plums are blooming, also early cherries, and artichokes are up, too.

I wish to offer thanks to Mr. Hasty, and will also say that there will not be very many hot days before artichokes will furnish shade. The strange thing about artichokes is, if the blossom is picked off the stalk, the tubers die a natural death. You see how easy they are kept from spreading. Asparagus, grapes, and rhubarb, are a whole season behind artichokes for shade.

I wanted to have sunflowers a few years ago, so I planted some on my place for poultry feed, but the neighbors gave me "a big talk," and I therefore gave it up. Five miles north of here there is a 160-acre farm not in cultivation for two seasons, and if I saw sunflowers it was on that place.

Kansas is called the "Sunflower State," but those farmers who live in a sunflower neighborhood hate them worse than cockleburs.

ALBERT WILTZ.

Atchinson Co., Kans., April 20.

Cause of Low Prices of Honey.

I think our bee-keepers are to blame for the low price offered by the commission men early in the season. Take the year 1897, for example: There was about 10 days of the best honey-flow from clover that I ever saw, and immediately the bee-keepers began writing of honey "just rolling in." Well, that was all the surplus we got in this section, and some of our bees starved, but the commission men started in with low prices, and people sold. For did not the bee-papers report a great honey-flow? And it has taken a long time to convince the people that there is not a great deal of honey in the country.

I do not believe one could find 10 pounds of white honey in this locality to-day.

I wonder if the bee-keepers can not be instructed to wait until the chickens are hatched before counting them.

When the dwindling ceased last spring I had only 10 colonies out of 25, and there were only two of those that I considered of any value. But I fed them up and they did wonders, increasing to 16 colonies, and giving me something over 400 pounds of honey in sections. I sold it to the home trade at 12 and 15 cents per pound. MRS. C. A. BALL.

Oneida Co., N. Y., April 9.

Headquarters
—FOR—
Beekeepers Supplies

Root's Goods at Root's Factory Prices

Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand.
The freights from Cincinnati are the lowest.
Prompt service is what I practice. Satisfaction guaranteed.
Catalog mailed free—send for same.
The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.
You will save money by buying from me.

Orders taken for Queens—GOLDEN ITALIANS, RED CLOVER QUEENS, and CARNIOLANS. For prices I refer you to my catalog.

C. H. W. WEBER,

2146-2148 Central Ave., CINCINNATI, OHIO.
Successor to Chas. F. Muth & Son and A. Muth.
Please mention Bee Journal when writing.

PAGE

IF YOUR TICKET

drew a mile of woven wire fencing, wouldn't you be mighty lucky if it specified "The PAGE"?
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 20 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st

Send for circular.

JOHN M. DAVIS,
14A26t SPRING HILL, TENN.
Please mention Bee Journal when writing.

Our Choice for honey-gatherers is a cross between the Italian and Carniolan. A limited number of Nuclei and and full colonies for sale. Healthy, vigorous, and excellent workers. Address,
20A4t E. S. ROE, CLARISSA, TODD CO., MINN.

$5 TO START YOU IN BUSINESS
We will present you with the first 25 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.
DRAPER PUBLISHING CO., Chicago, Ills.

COMB FOUNDATION ADVANCED 3 CENTS A POUND.

Owing to the increased price of beeswax, until further notice, dealers handling the A. I. Root Company's goods are compelled to raise the price of Comb Foundation 3 cents per pound above the prices found in their price-lists and catalogs. Please take notice.—Adv.

Does Noise Disturb Bees?

There has been some discussion lately in regard to bees hearing. "Does noise disturb bees, etc." I tried 8 colonies the past winter in a new cellar, which I built last summer. This cellar is directly under the kitchen floor. Now, I have a family of boys and girls that like to romp and play as well as the average family of children does; furthermore, some of those colonies were directly under the kitchen wood-box. I have been in the bee-room when the boys would bring in their wood and drop it into the wood-box, and it actually seemed as if the wood-box and all were coming down through the floor into the cellar, yet it did not seem to disturb the bees in the least. This occurred every day, and yet after a confinement of five months and three days they were placed on the summer stands strong and in fine condition. GEO. W. STONEMAN.

Door Co., Wis.

An Advantage of Clipped Queens.

What is probably new to many is thus given by G. M. Doolittle, in Gleanings in Bee-Culture:

I do not believe in not having hives all in readiness for swarms when they come; but in case of emergency, if the queen is clipped, you can hold a swarm out on a limb while you make a dozen hives, or all summer if you wish. If you ever wish to do this, as soon as you have the queen in the cage attach a short piece of wire to the cage; and as soon as the bees begin to alight, bend this piece of wire over the limb, so the caged queen will hang where the cluster will naturally be, when the swarm will alight and cluster the same as they would had the queen not been clipped. You can now go about anything you may wish to, making hives or anything else, resting assured that you will find the bees there when you are ready to take care of them. If they should go off they will come back to the limb as soon as they find their queen is not with them, and cluster there again, as I have had them do when conducting experiments along this line, I even holding them thus until they had started several combs, evidently concluding to make their future home on this limb. I at first thought, when they started off so, that they would return to the parent hive on coming back, instead of seeking out the limb; but the queen is of all-absorbing consequence to any swarm, and so they come back to her every time.

The Food Value of Honey.

You ask for an article on "Food Value of Honey as Compared with Meat, Cheese, Butter, etc." This is hard to give. All kinds of food are necessary to health, and the best condition of our bodies. The proteids—meat, cheese, white of egg—we positively must have to live at all. We call food containing much of these "hearty." If we have too little we are poorly nourished and crave them. The carbohydrates—starch and sugars, including honey—if not so absolutely necessary to life, are surely requisite to health and strength. We have a great sugar-factory in our bodies—the liver—so that we may have this necessary food even though we do not take it in our daily regimen.

Fats and oils are likewise necessary to the

3-Frame Nuclei For Sale.

We have arranged with a bee-keeper located in Kankakee Co., Ill., (within 12 miles of Kankakee), to fill orders for Nuclei of bees. All are to be first-class, and most of the bees show Italian markings. The queens in the Nuclei will be Italian, of this year's rearing.

The Nuclei are 3-frame Langstroth, in light shipping-boxes. Prices: 1 for $3.00; 5 or more at $2.75 each.

All are f.o.b. shipping-point, and will be sent by express, a postal card notice being mailed to each purchaser a day or two before shipping the bees.

GEORGE W. YORK & CO.,
144 & 146 Erie St., - CHICAGO, ILL.

BOYS WE WANT WORKERS Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

Please mention Bee Journal when writing.

1902—Bee-Keepers' Supplies!
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

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FREE FOR A MONTH ....
If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep
has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

For Sale. 40 Colonies of —BEES— mostly Italians.
D. C. BUCKSTAFF,
18A3t 149 So. Main Street, OSHKOSH, WIS.

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SHIPPED ON APPROVAL and **Ten Days Free Trial** to any person in U. S. or Canada. *Not a cent deposit* required on our Bicycles in advance.
1902 Models, $9 to $15
1900 & '01 Models, best makes, $7 to $11
500 Second-hand Wheels all makes and models, good as new, $3 to $8. Great *Factory Clearing Sale* at half factory cost. Tires, equipment & sundries, all kinds, half regular prices.
EARN A BICYCLE distributing 1000 catalogues on our new plan.
A RIDER AGENT in each town can make money fast on our wonderful 1902 proposition. *Write at once* for lowest *net prices* to agents and our special offer.
MEAD CYCLE CO. Dept. 357 N CHICAGO, ILL.

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It will be to Your Advantage to ascertain the rates from Chicago to New York, New England and all Eastern points, applying over the Nickel Plate Road and its Eastern connections. Three trains daily, on which there is no excess fare. One feature of service on that road is meals in dining-cars, on American club plan. Pay for what you get, but in no event more than from 35 cents to $1.00. Folders, rates, and all information cheerfully furnished by applying to John Y. Calahan, General Agent, 111 Adams St., Chicago, Ill., Depot Fifth Ave., and Harrison St. Phone Central 2057.
4—18A3t

Please mention Bee Journal when writing advertisers.

best condition of our bodies. We could live on proteids alone, but not in best health, and such diet is very expensive when it alone ministers to our bodily needs. The liver can manufacture sugar when we eat only proteids, but it works much easier and more effectively when we eat liberally of the carbohydrates. Nearly all sugar and all starch must be digested before it can pass to the blood. Not so honey. The bees digest this for us. Thus we may well believe that of all the carbohydrates, honey is the best.

Thus we can say that honey is doubtless the very best food of its kind, and that such food is absolutely necessary to health and strength, and greatly conserves the more expensive and absolutely requisite proteids. The child voices his need of such food in his longing for candy. We act wisely when we give him all he desires in the best of sweets—honey—which should be served most liberally at every meal-time. This will check the desire which leads to the pernicious habit of taking candy at all times and on all occasions.—PROF. A. J. COOK, in Canadian Bee Journal.

Is there Danger in the Cell-Cup Plan?

Arthur C. Miller thinks there is. In an article in Gleanings in Bee-Culture, he says among other things:

Under natural conditions a queen lays an egg in a cell. For three days the embryo in this egg grows, the nourishment for the forming larva being the vitellus, or yolk. On hatching, it receives a food prepared in the stomach of the nurse-bee, consisting of honey and pollen acted on by the digestive secretions of her body. If the larva is destined to become a worker it receives such food for approximately three days, after which a gradual change takes place. According to Dr. A. de Planta's analysis, the solids in the food of the worker-larva, before the fourth day, consist of albumen 53.38; fatty substances 8.38; sugar 18.09 percent. After that time the proportions of the same elements are respectively 27.87, 3.69, and 44.93 percent—a very decided change. According to the same tables a larva destined for queen receives of albumen 45.14; fatty substances 13.55; sugar 20.39. These figures are taken from Mr. Cowan's book, "The Honey-Bee," page 123. Mr. Cowan also quotes Dr. de Planta as saying that, for the first three days, the food of queen-larvæ is the same as of the worker-larvæ for the same period (page 122), and that "queen-larvæ were fed the same food during the whole term of their existence." There is a discrepancy here which needs investigating.

What I desire to impress on the mind of the reader is that, with each varying stage of the development of the embryo—that is, from the commencement of the incubation of the egg until the larva spins its cocoon, there takes place a change in the proportions of the elements of the food. It is of vital importance that these changes occur at the proper time, if the embryo is to develop normally. It should be borne in mind that the larval bee is as truly a developing embryo as is an unborn mammal.

Size of Hives.

"Is a larger hive than an 8-frame Langstroth desirable?"

Mr. Hall—For what purpose? I have equal to the 8-frame Langstroth hive, and I have equal to the 11-frame, and for extracted honey I want the large one, and for comb honey I don't trouble which one it is.

Mr. Holmes—Answer it both ways.

Mr. Hall—For comb honey the smaller one. In the location where you have a fall flow the smaller one, every time. In locations where you have nothing but white honey, where it shuts off July 22, the large one every time.

Mr. McEvoy—Wouldn't the man have something to do with it?

Mr. Hall—The man has something to do with all these things. He is the smallest portion of it. The field is first, the man is next, the hive is next.

Mr. Fixter—As far as my little experience is concerned, I have no use whatever for the large hive.

Mr. Hall—But you have no fall flow.

Mr. Fixter—No. We have had the 8-frame

FOR SALE.

125 8-frame Dovetailed Supers, 17¼ inches long inside, by 5¾ deep, closed-end extracting-frames—at 10 cts. each; also 175 Supers, same length, and 4⅜ inches deep—at 5 cts. each: 8000 snow-white plain Sections for same, at $1.75 per M.; 25 Covers for same, nailed and painted, at 12 cts. each. E. W. BROWN, Box 102,
20Atf Morton Park, Cook Co., Ill.

50 Colonies Bees For Sale
On 8 Hoffman Frames.
CLYDE CADY,
20A2t R. F. D. No. 3, GRASS LAKE, MICH.

The Life of the Wheel depends upon the make of the wheel
ELECTRIC WHEELS last almost forever. Fit any wagon, straight or staggered spokes. Write for the catalogue. We mail it free.
ELECTRIC WHEEL CO., Box 16, Quincy, Ills.

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.
Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.
Very truly yours, JOHN THOEMING.

MONTHS	May and June.		
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00
GOLDEN QUEENS			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00

Select tested, $2.00 each, after June 1.
Breeders, $5.00 each, after June 1.

We begin mailing Queens about May 25, and fill orders in rotation. Circular free.

D. J. BLOCHER, Pearl City, Ill.
18Etf Please mention the Bee Journal.

BINGHAM'S PATENT SMOKERS
24 years the best. Send for Circular.
25Atf T. F. BINGHAM, Farwell, Mich.

An Italian Queen Free!

We would like to have our regular subscribers (who best know the value of the American Bee Journal) to work for us in getting **NEW** subscribers. We do not ask them to work for us for nothing, but wish to say that we will mail **ONE FINE UNTESTED ITALIAN QUEEN** for sending us **ONE NEW** subscriber for a year, with $1.00; or 2 Queens for sending 2 new subscribers, etc. Remember, this offer is made *only* to those who are now getting the Bee Journal regularly, and whose subscriptions are fully paid up.

In case you cannot secure the new subscribers, we will mail one of these Queens for 75 cts., or 3 or more at 70 cts. each; or the Bee Journal one year and a Queen for $1.50. We expect to be able to send them almost by return mail.

(Please do not get these offers mixed up with our Red Clover Queen offers on another page.)

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

Langstroth, and a hive 15x15x20, and a hive 14x15x12; we have the Heddon hive; the 8-frame Langstroth hive can knock them all out. That is a three years' test.

Mr. Hall—Mine had 25 years' test.

Mr. Holtermann—I might just say that the company I am with are beginning, and after weighing it all carefully we have come to the conclusion, at least I have, that we are going to have 250 hives made, and that they are going to be 12-frame Langstroths.

Mr. Hall—Mine is equal to a 13-frame Langstroth.

Mr. Holtermann—I agree with Mr. Hall entirely. Mr. Hall says he wants the large hive for extracted honey, and for comb honey he does not care which he has. I don't want to run two kinds of hives if it can be avoided. If you are beginning two sizes of hives, and you can make both do for comb or extracted, I don't just see the objection that Mr. Hall has if you have the fall flow.

Mr. Hall—The objection is this: I tell you what I do at home. I take every ounce of white honey I can get from the top, and I either fill them up with foundation or put two together and run them down to the fall flow. They work together, and they give me 50 or 60 pounds of a fall flow.

Mr. Holtermann—You can contract through the light flow, and then give them more room for the dark.

Mr. Hall—I would rather keep them in the small hive so that they would not have any surplus honey down-stairs, and then give them a good chance to fill up with the fall flow.

Mr. Holtermann—You would contract to about 8 for winter?

Mr. Hall—If I am not lazy I would contract to 4. Four will hold 35 pounds.

Mr. Gemmill—I have some on 4 solid sealed combs now; that is all they have. I would like to endorse what Mr. Hall says. It is not so much the hive, it is the location and management. If I had Jones' hives I would use them; if I had smaller hives I would utilize them in such a way that I could make them big if I wanted to.

Mr. McEvoy—I think Mr. Gemmill set it right when he said it was the management; but I would want that management conducted with the 8-frame Langstroth.

Mr. Gemmill—In regard to wintering, do you mean?

Mr. McEvoy—No; in wintering, the big frame is nowhere. I would want the smaller hive then, every time.

Mr. Gemmill—Do like Mr. Hall, contract it if you want to. I want the big hive for summer.—Canadian Bee Journal.

CONVENTION NOTICE.

Illinois.—The Eastern part of the Northern Illinois Bee-Keepers' Association will hold their spring meeting at the residence of O. J. Cummings, 2½ miles northeast of Rockford, Ill., Tuesday, May 20, 1902. All interested in bees are invited to attend. B. KENNEDY, Sec.

400 Boxes 2d-Hand Cans.

We have on hand 400 BOXES of 60-lb. Tin Honey-Cans (2 cans in a box.) Many of them were emptied of honey by ourselves, and all have been carefully inspected. If we had occasion to do so, we would use them again ourselves. We need the room they occupy, and offer them at a low price to close out, as follows, f.o.b. Chicago: 5 boxes at 50 cts. each; 10 boxes, 40 cts. each; 20 boxes, 35 cts. each, 50 or more boxes, 30 cts. each. NEW boxes of cans are worth 75 cts. a box of 2 cans. So these 2d-hand cans are a bargain. Better speak quickly if you want any of them.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

O. H. HYATT,
13Atf SHENANDOAH, Page Co., IOWA.

3-Frame Nuclei FOR SALE $2.00 Each.

After May 15th, will sell 3-fr. Nuclei of Bees on L. frames, $2.00 each, f.o.b. R.R. here; after June 1st, $1.75 each. ALSO BEE-SUPPLIES

H. MOORE,
19A2t 704 McLemore Ave., MEMPHIS, TENN.

DAIRYMEN ARE DELIGHTED
to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.

Good Second-Hand Hives —FOR SALE—

10-frame Simplicity-Langstreth, standard in every way. When I kept bees I would have been glad to pay $1.00 each for such hives. Write for particulars. MRS. B. J. LIVINGSTON,
19A2t CENTER CHAIN, MARTIN CO., MINN.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, May 8.—The trade in honey of all kinds is light, especially is this true of comb, the little trade that exists is for the best grades. Basswood ranges from 14@15c; that having more or less basswood, willow or other white nectar, 13c; off grades of white, 10@12c; amber, 8@9c. Extracted, white, 5½@6c; amber, 5@5½c; some lots of new extracted offered, but no sales have been made. Beeswax scarce at 32c.
R. A. BURNETT & CO.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH CO.

ALBANY, N.Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6½c. Beeswax, good demand, 30@31c.
H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c; Florida honey, in barrels, 6@6½c. BLAKE, SCOTT & LEE.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

CINCINNATI, May 8.—As the warm weather set in, the demand for comb honey is as good as over. There are no settled prices; for whatever is left, prices are made to force sales. Extracted honey is in fair demand and finds steady sales. Amber is sold in barrel lots for 5@5½c; water-white alfalfa, sells from 6@6½c, and white clover brings from 6½@7c. Beeswax scarce and brings 30@31c. C. H. W. WEBER.

NEW YORK, Apr. 7.—Comb honey, last year's crop, practically cleaned up, but as we wrote a little while ago we had received new crop from Cuba, and are now receiving new crop from the South. Demand is fair at 14c for fancy white, 13c for No.1, 12c for No.2, and 10@11c for amber.

Extracted: The market is decidedly dull. Very little demand, with large stocks on hand, some of which no doubt will have to be carried over, and indications point to a further decline in prices. We quote: White, 6c; light amber, 5½c; amber, 5c; Southern, 52½@58c per gallon, according to quality. Even these prices are shaded in car lots. Beeswax, scarce and firm at 29@30c. HILDRETH & SEGELKEN.

SAN FRANCISCO, Apr. 16.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Demand is not very active, and market cannot be termed firm, although quotable values remain without important change. Considerable honey of last crop is now being offered, which up to a few weeks ago had been held off the market. New crop is expected to arrive in wholesale quantity in the very near future.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.
7A26t Please mention Bee Journal when writing.

30 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 30 cents a pound—CASH—for best yellow, upon its receipt, or 32 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Please Mention the Bee Journal when writing Advertisers *****

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

—FOR HIS—

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Please mention Bee Journal when writing.

1861 —ADEL QUEENS— 1902

Adel bees the Standard strain. My 1902 Catalog ready to mail May 1. Send for it. Address,

HENRY ALLEY, Wenham, Mass.
18Atf Mention the American Bee Journal.

SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.
Please mention Bee Journal when writing.

BEE-KEEPERS,

Save Money by Buying

Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF

THE W. T. FALCONER MFG. CO., Jamestown, N. Y.

☞ Our goods are guaranteed of superior quality in every way.

Send for our large illustrated catalog, and copy of

THE AMERICAN BEE-KEEPER,

a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)

☞ W. M. GERRISH E Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,

330 Market Street, - SAN FRANCISCO, CAL.

$300,000,000.00 A YEAR and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.

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Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

European Tourists and Others destined to Eastern points, will find the low rates applying over the Nickel Plate Road to New York, New England and other Eastern destinations, specially attractive. The Eastern terminals via this line are only from three to ten minutes from all ocean steamship docks, and the service afforded is first-class. Three trains daily from Chicago. Uniformed colored porters are in charge of day coaches, whose duties require that proper care shall always be given to keeping cars clean and attending to the wants of passengers en-route. Meals are served in dining-cars at prices that are reasonable and within reach of all. Details cheerfully furnished on application to John Y. Calahan, General Agent, 111 Adams St., Chicago. Chicago City Ticket Office, 111 Adams St. 'Phone Central 2057.

3—18A3t

BEES **QUEENS**

Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

Please mention Bee Journal when writing.

25th Year **Dadant's Foundation** 25th Year

We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING. No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

Bee-Keepers' Supplies OF ALL KINDS *****

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,

The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing

THE DANZENBAKER HIVE

The best comb-honey hive on the market may be obtained of The A. I. Root Co., of Medina, Ohio; at any of their branch houses, and many of their local and jobbing agencies. Send to the address nearest you, and save freight, and get quick delivery.

Branch Offices.

The A. I. Root Co., 10 Vine St., Philadelphia, Pa. Wm. A. Selser, Manager.
The A. I. Root Co., - - - Syracuse, N. Y. F. A. Salisbury, Manager.
The A. I. Root Co., - Mechanic Falls, Me. J. B. Mason, Manager.
The A. I. Root Co., 1024 Miss St., St. Paul, Minn. H. G. Acklin, Manager.
The A. I. Root Co., - - San Antonio, Texas. Toepperwein & Walton, Managers.
The A. I. Root Co., 1200 Md. Av., S. W. Washington. Saffell & Herrick, Managers.
The A. I. Root Co., San Ignacio 17 Havana, Cuba. F. H. de Beche, Manager.

Jobbing Agencies.

Geo. W. York & Co., 144 & 146 Erie St., Chicago, Ill.
C. H. W. Weber, - - - - Cincinnati, Ohio
M. H. Hunt & Son, - - - Bell Branch, Mich.
Walter S. Pouder, - - Indianapolis, Ind.
Jos. Nysewander, - - - Des Moines, Iowa.
Jno. Nebel & Son, High Hill, Montgomery Co., Mo.
Prothero & Arnold, Du Bois, Clearfield Co., Penn.
Carl F. Buck, - - Augusta, Butler Co., Kan.
W. W. Cary & Son, - - - Lyonsville, Mass.
The L. A. Watkins Mdse. Co., - Denver, Colo.

Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.

THE A. I. ROOT COMPANY, Medina, Ohio.

GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market.

J. B. MASON,
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.

M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.

THE A. I. ROOT CO.,

MEDINA, OHIO, U.S.A.

GEORGE W. YORK & CO., 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MAY 22, 1902.

FORTY-SECOND YEAR No. 21.

AMERIC... COLLEGE

WEEKLY

A FIELD OF ALFALFA IN FULL BLOOM.—(See page 336)

Montgomery Ward & Co. Catalogue
CATALOGUE AND BUYERS' GUIDE No. 70
THIS IS OUR ONLY SALESMAN
We have been working together on this catalogue for thirty years. We consider this number to be as near the ideal Buyer's Guide as the world has ever seen. We have done our best and our assistants have done their utmost, to tell the TRUTH about everything listed herein
MONTGOMERY WARD & CO.
MICHIGAN AVENUE & MADISON STREET, CHICAGO

This is our Famous Catalogue. It can be found in over two million homes of thinking people. Is it in yours?

Why Not Start Now?

Spring is at hand and you will need supplies of all kinds. If you are a progressive, up-to-date buyer, go slow and place your order where you will get biggest returns for your dollar.

HAVE YOU EVER TRIED MONTGOMERY WARD & CO. *of Chicago? Perhaps you have long intended to, but never knew how to begin. Why not start now? Our Catalogue No. 70, revised for Spring and Summer, is just out, our building is piled from basement to roof with good things—the very best our active buyer could gather in the best markets; every employe in our big establishment is ready and waiting to serve you to the best of his or her ability—just as though you were shopping over our counters. We've been preparing for this event all winter, and believe that there never was a better opportunity for shrewd, active buyers to start purchasing on our wholesale prices—no middlemen—one profit plan. The Spring and Summer edition of*

CATALOGUE NO. 70 IS NOW READY. *Over 1000 pages packed with the good things of life—everything you use—gathered by our buyers from the markets of the world. Page after page of high grade merchandise, all illustrated and honestly described.*

SEEMS TO US THAT YOU OUGHT TO HAVE A COPY. *We want you to have one—so much so that we will furnish the book free and pay one-half the postage if you will pay the rest, fifteen cents. There are so many people in this country bubbling over with curiosity, or trying to get something for nothing, that we are compelled to make this trivial charge. It is only fifteen cents but it assures us that you are acting in good faith and are interested in our business. Why not ask for it today, before you forget it?*

Montgomery Ward & Co., · Chicago

9

Please mention Bee Journal when writing

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get grand bee-book for a very little money or work.

GEORGE W. YORK & CO.

144 & 146 Erie Street, - CHICAGO, ILL

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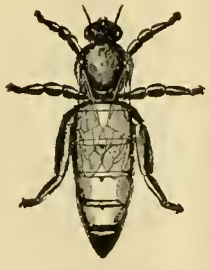

FOR GETTING NEW SUBSCRIBERS.

Red Clover Queens

FOR 1902 FREE!

Long-Tongue Variety—Warranted Purely Mated

We have arranged with the queen-breeder who furnished Long-Tongue Red Clover Queen for us during the season of 1901, to fill our orders this season. Although fully 95 percent of the untested queens he sent out were purely mated, this season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most excellent reports from the queens we supplied last season. And this year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

Orders for these fine, "long-reach" Warranted Queens will be filled in rotation—"first come first served"—beginning as early in June as possible. It is expected that orders can be filled quite promptly (even better than the past season), as a much larger number of queen-rearing nuclei will be run. (But never remove the old queen from the colony until you have received the new one, no matter from whom you order a queen).

All Queens will be guaranteed to arrive in good condition, and will be clipped, unless otherwise ordered.

A Warranted Queen for Sending us only TWO NEW YEARLY SUBSCRIBERS.

In order that every one of our subscribers who wants one of these Warranted Queens this season can easily earn it, we will book your order as follows:

No. 1.—For sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00, we will mail you ONE of these queens free.

No. 2.—Or, for sending us *one new* subscription at $1.00, and 30 cents more ($1.30), we will mail you a queen, and the Bee Journal for one year to the new subscriber.

No. 3.—Or, send us $1.60 and we will send to YOU the Bee Journal for one year, and also a queen.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., MAY 22, 1902. No. 21.

Editorial.

Answering Comb Honey Lies.—This should be done in the very same papers that publish the lies. We are very glad to have our readers send us clippings from newspapers showing what is being said on the honey question, but please don't ask us to answer them all in the American Bee Journal. So few of the people who read those lies in the daily press take this journal, that it is hardly worth while for *us* to devote much time or space to them.

The thing to do, is for the readers who subscribe for and read the newspapers that are guilty of publishing untruths about honey, to write to the editors of such newspapers, placing the truth before them in a courteous manner, and requesting its publication.

Not even the editor of a newspaper can possibly know everything, and if he is only half-witted he will be glad to publish a correction of misrepresentations that have unintentionally appeared in his paper. But it is useless to publish such corrections in a paper not read by the same people who read the misrepresentations in the first place. Something like a paper that for a time tried to correct the errors found in other papers, when its own circulation was only a fraction of the papers it was correcting. It seemed to be almost a flat failure.

Alfalfa and Irrigation.—Editor Root having expressed the opinion that alfalfa does not yield nectar except on irrigated lands, Carl F. Buck replies in Gleanings in Bee-Culture he does not know what they would do in Kansas if it were not for alfalfa. He says:

Alfalfa does not seem to do much good in Missouri, Illinois, and other eastern States; but in Nebraska, Kansas, Oklahoma, and Indian Territory, alfalfa on the bottom lands does yield honey, in some quantity at least, and in many localities it yields it in abundance—but, of course, not like the irrigated districts of Colorado and other western States.

Honey-Questions in Newspapers.—Several of these have appeared recently in a certain Chicago daily newspaper, having been referred to one of its special writers for reply. Here is a sample:

"Please inform me if pure honey will turn to sugar. I have been told it does. If so, what can I do to get it back to a liquid?

"L. H."

Our readers will enjoy the indication of the quantity of information on the characteristics of honey possessed by the one who answered the question, when they read this:

"Pure honey should last for years without candying if kept in a close jar or bottle. Nothing will bring it back to a liquid state after it has candied, unless you adulterate it with water and boil it."

Think of mixing water with granulated honey, and then boiling it, in order to reliquefy it! What a big free advertisement that is of the amount of ignorance concerning honey the one answering has in storage. How much better it would have been to have quoted from Dr. Miller's large stock of "I don't know's."

Well, here is another that is pretty good:

"Do you agree with Dr. Kellogg, of Battle Creek, in his statement that honey should be partaken of very sparingly and as a relish only, for the reason that the bee injects a small quantity of poison into each cell just before capping the same for the purpose of preserving the honey? I believe this poison is called formic acid."

And this is the answer given to the foregoing question:

"The idea is novel to me—and startling. However opinions may vary as to the cause, honey is certainly extremely unwholesome when eaten in large quantities. Some people can not eat it at all. I have supposed this to be in consequence of the clogging and congesting effect of the wax upon the alimentary organs. The suggestion of formic acid is an unpleasant complication."

Surely, it is a novel idea that the bee "injects a small quantity of poison into each cell just before capping" it.

And so it is extremely unwholesome to eat large quantities of honey? It might be just as unwholesome to take "large quantities" of water, or large doses of anything else that is good. But who eats honey like a hog eats corn or potatoes? It isn't neeessary to make a whole meal of honey alone, any more than one would eat all butter or all pie at one meal. A person ought to use a little sense in eating, that is, if he has any.

Yes, we have seen people who couldn't eat honey. The trouble was, we found, they had been trying to eat glucose with a piece of honey-comb in it. As soon as they got hold of *honey* they were all right. Now, we can eat perhaps a half section of honey at one meal, if we feel like it, but that, of course, is almost bordering on the swinish idea, we must confess. Perhaps a quarter of a section of honey would be sufficient. But we never stop to count the cells and estimate how much bee-poison we are eating. That would be ridiculous.

When it comes to extracted honey, we like to have at every meal about two full teaspoonfuls in a little side-dish. We like to clean it all up at each meal. Then it "tastes like more." But if we were to be a little piggish, and try to put down a half-pound at one meal, we would likely not care for any more at the next meal, or for several days. A little and often we believe is a good practice when it comes to eating honey.

But to return to the poison the bees put in the honey. Dr. Kellogg ought to get a few bees and watch them inject the poison into each cell. Unless he *knows* such to be *a fact*, he should not give utterance to the idea. Some people are so easily influenced by what they read that they might be induced to deprive themselves of so luscious a viand as honey, and all because they had read somewhere that a certain doctor "said so." We have no doubt some people will actually stir some water with granulated honey, and then boil it, in order to *un*granulate it.

But we wonder why the daily papers don't refer their bee and honey questions to people who are supposed to know something about such things. Dr. Miller and many other bee-keepers would gladly help to get the truth about bees and honey before the people.

The Denver Convention promises to be fully equal to the Chicago conventions of the National Association, and that is saying a good deal. Of course, there is a possibility of the Denver one being greater in many ways. We hope it will be such. The following has been received from Pres. Hutchinson:

THE COMING CONVENTION AT DENVER.

Of course, we naturally expected, if the National convention went out to Denver, that those Western people would do the handsome thing, but the present indications are that they are going away ahead of anything that any of us have *dreamed of*. Some things have come to me in private letters, giving hints of what may be expected, but all of their plans are not yet sufficiently completed to be given to the public; however, I have a letter from Secretary Working, that I have permission to publish, and here it is:

DENVER, COLO., April 26, 1902.

Mr. W. Z. Hutchinson.—

Dear Sir:—We have put both feet into it! Yesterday and the day before our Executive Committee (Harris, Gill, Rauchfuss, and Working) made the preliminary arrangements for the big meeting in September. Following are the chief points decided upon:

The Colorado Association will meet on Tuesday morning, Sept. 2, and devote the day to business, and in the evening and the following days take part in the general sessions of the National Association. Our program committee will work with yours.

We will give a complimentary banquet to members of the National Association coming from other States than Colorado, and a "Seeing Denver" trolley ride to all the attractive places in the city to the same people. Our members, and those of your Association who have the good fortune to live in Colorado,

will have the pleasure of sharing in these pleasures for a fixed price—to be fixed later.

We will plan for special excursions at low rates to places of interest in various parts of the State.

We gave our committee on exhibits $50, and the authority to beg a thousand, for the purpose of making a great exhibition.

We decided to "spread" ourselves in such a way as to make the visiting bee-keepers forever proud of having attended the Denver meeting, and those who don't come everlastingly ashamed of themselves. And we have persuaded the Mayor of the city, and the Governor of the State, to do their utmost to make the occasion memorable; and the men who hold the purse-strings of the city, are interested. Promises later. Then, too, the Secretary of the Denver Chamber of Commerce, who is past-master in such matters, has become an enthusiastic member of our banquet committee—a committee that is not too big to do things.

That ought to be enough to tell you now. You are to tell us when we may give the banquet. You are to name us three men, including yourself, who will respond briefly and *thankfully* to addresses of welcome by President Harris, Governor Orman, and Mayor Wright. As for the banquet, you are to prepare for it and nothing more—to be in good humor, in good appetite, and in large numbers.

As for our people? With the kind co-operation of the railroads, we'll bring them to Denver in crowds. There'll be as many of our folks as of yours, if you dare! And before we are done with you, you'll be ours and we'll be yours.

Scatter the news! Tell it in Gath and Askelon. We'll tell it wherever Denver papers circulate. Yours truly,

D. W. WORKING,
Secretary Colorado State Association.

It is very evident to me that the man who misses the coming convention at Denver will miss the treat of his lifetime. I expect to see it outstrip its predecessors in every possible manner—and that is saying a great deal. But look at the conditions: In the heart of the great West, and for the *first time*. Bee-keepers of both high and low degree, all over the West, will flock to it. The local arrangements, upon which the success of a convention is so largely dependent, are in the hands of very capable men. The rates of the railroads will be low. It is at the right time of the year—before cold weather, and after the work and heat of the season are over. The sights to be seen in and around Denver are equal to any on earth. Go to Denver, meet the boys, have one grand holiday, and go home loaded with enthusiasm and new ideas—the two things upon which all successes have been builded.

W. Z. HUTCHINSON, *Pres.*

Now, we submit that if the whole of the above doesn't sound about as windy as the windiest thing that ever came from this notorious "Windy City" (Chicago), we are no lover of honey. But if there are any who doubt the ability of those Denverites to carry out their big plans and schemes, the best way to see them fail (or succeed) is to go to the convention.

Just think of that banquet—with meat and other eatables soaring aloft in price! And the trolley ride! Yes, and the Governor and Mayor! And there's that hustling Secretary Working them all!

Well, it looks to us as if it is going to be a regular hallelujah time. We hope to be able to "take it all in" when the time comes. But our capacity may not be equal to it, even if we should be "Aikin" ever so hard to do so.

Let's all abscond to Denver, and swarm down on the bee brethren and sisters there in regular apiarian style.

Hurrah for Denver! And the convention!

Weekly Budget.

RED CLOVER QUEENS.—The breeder who rears and mails the red clover queens we have been offering, writes us that he expects to be able to begin to mail our orders June 10 to June 15. If the weather is favorable, he intends to have all our present queen orders filled by July 1st.

A postal card will be mailed a day or two in advance of sending the queen, to each person entitled to receive a queen from us.

This will answer a number of readers who are getting somewhat anxious about the red clover queens they are to have.

CACTI AND ALFALFA IN ARIZONA.—Editor E. R. Root, of Gleanings in Bee-Culture, as will be remembered, made a trip through the South and West last year, and afterward described his journeys with pencil and picture. This week, through the courtesy of Gleanings, we give two of the illustrations that will be of interest to our readers, and the following part of the write-up which accompanied them:

THE CÉLEBRATED FOREST OF GIANT CACTI ON THE ROAD LEADING FROM TEMPE TO PHŒNIX, ARIZONA.

We had planned to drive to Phœnix, and in doing so we had to pass by a cactus forest, perhaps the most remarkable in the world, on the main road leading from Tempe to Phœnix. As we came up alongside of these magnificent specimens of tree cacti, monarchs of their kind, I could not help thinking of my old boyhood days at school, when I was studying geography, how I used to look at the pictures of these giant cacti, or what seemed to me to be very funny trees then, and whether or not I should ever see the real thing. I asked Mr. Chambers to drive up near some of them while I, with my little pocket kodak, would take in a more permanent remiuder of them, and here are some of the "shots."

On the top of these cacti will be seen small objects. They are nothing more nor less than beautiful blossoms that yield copiously a rich, thick nectar. Quite a little swarm of bees will hover around them (they were thick around them when the photos were taken; but on account of their small size, of course they do not show), for all a bee has to do is dip down into one of the great, big cups and drink and drink to its fill. Then it flutters off, scarcely able to fly, while the others are gorging themselves only to go back home in a lazy, uncertain flight.

In the picture shown we have a general view of the whole forest of tree cacti. Over in the distance will be seen the mountains near which orange-growing, I was told, was possible. The broad expanse of country shown in the general view, is a perfect desert. Nothing will thrive there but these cacti; a peculiar kind of thistle, or what seemed to be such to me, and the ever-present sage-brush; and yet, on the *other side* of the road were beautiful market gardens and fields of alfalfa. Why this difference? you ask. The one can be irrigated, and the other can not; and I hope it never can, because this desert has some attraction just as Nature left it, and man should not be allowed to desecrate it.

This forest is probably the largest, both in the number of trees and in its general size, of any in the world. There seems to be no apparent effort to preserve these magnificent specimens. They are mutilated by curio-seekers tearing off a piece of the bark. Then, as if the work of civilized man was not enough, the Indians mutilate them with their bad aim, throwing stones to knock down the fruit that develops from the flowers, of which the bees are so fond. Indeed, there is no way by which this fruit can be gotten out by pelting it down. Taking it all in all, it seems too bad that the general government is not taking more active measures to preserve such magnificent specimens of cacti—specimens that take years to grow, and that landscape gardeners in the Eastern cities would pay thousands of dollars for if they could only cultivate them.

Speaking about the fruit of the tree, cactus reminds me that no one but an Indian can eat it. It affects white men very seriously, and some have been known to die from it; for it has a beautiful flavor, and therein lies the danger. Before civilization had encroached on either side of this magnificent forest of cacti, the Indians were in the habit of getting water from them. There is a trick about it that they alone understand; and although the water, I am told, is somewhat brackish, yet to one almost dying of thirst, I suppose it has all the freshness of the delightful cool springs that we knew in our childhood days.

After I had snapped the kodak right and left, I got into the buggy again; but as I did

[Continued on page 336.]

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 309.)

HIVE BOTTOM-BOARDS.

"How many are satisfied with the Danz. bottom-board?"

Five voted favorably.

"How many are not satisfied with it?"

About the same number voted unfavorably.

Mr. Swift—Why not?

Dr. Miller—Because I do not think it is as good as the Miller bottom-board, after which it patterns. The Danz. is simply an imitation, and it isn't as solid. The original Miller bottom-board was made to be reversible, but I think it is better not to be reversible. In the first place, I think the Danz. is not strong enough. I would rather have it made of good, strong lumber. In the second place, I would rather have it made not to reverse. Another point, the Danz. is not deep enough. It is ⅞ and ¾. I want it two inches one side and nothing on the other side; and I want that depth of two inches to be filled up in the summer-time with a false bottom thrust in, and I can pull it out again with a great deal less labor than I can reverse it: so that I much prefer the bottom-board to stay with the hive winter and summer, in the same way, and when I want a deep bottom I pull it out.

Mr. Horstmann—My objection is like Dr. Miller's. His idea of having the big entrance would be all right for any one wintering the bees inside, unless he has some advantage in it with the bees during the honey-flow: but otherwise I think the common bottom-board, the same as he uses, the every day bottom-board, is the best.

Dr. Miller—Did I understand Mr. Horsemann to say that there is no advantage in the deep bottom-board?

Mr. Horstmann—The way I winter my bees in the cellar I raise the hives up and put a lath across the front and rear; that gives that width all around the hives. There is no possiblity of a mouse getting into the repository, and it is usually warm enough; that is, the bees are warm enough to get at them if there is a hole gnawed through. I don't see the advantage of the big entrance, because I think the rats or mice will get in and have a good time, because the repository is apt to get cold as well as the hive, unless underground, and by and by, having them higher, unless there is some kind of a guard over it, I think it is a disadvantage.

Dr. Miller—There is no law against having a guard at that entrance, and that's just what I want. I want that two inches under the hive in the winter-time more than any other time. I need it more for the cellar than any other place, because then I don't need to separate it from the bottom-board. The bottom-board is fastened to the hive with staples, and when it comes time to take the bees into the cellar the false bottom is taken out, and there is a deep place for the bees to fall down in, and much more easy for you to clean out a space two inches deep than one one-half inch or one inch deep. And when the hives are taken into the cellar a piece of wire-cloth, three meshes to the inch, can be put at the front and there is no possibility of any rat or mouse getting in there then. It is much less work than raising by a lath or anything else. I follow that because it saves me all the labor. All in the world I have to do is to take out that false bottom and put in the wire cloth at the entrance, then it is ready for the whole winter.

Mr. Horstmann—I believe I will have to take it back. I believe Dr. Miller's method is the best, since he has explained it.

Mr. Mooney—Is that a reversible bottom-board?

Dr. Miller—As made in the first place it would be a reversible bottom-board, because in the first place I used it with old hives that had an entrance cut in the hive in front, and they stood on the flat bottom, but with the dovetailed it wouldn't work unless I nailed strips around; but I wouldn't have it to reverse, for the reason I would rather have the deep space there summer and winter.

Mr. Blunk—How far back will that extend?

Dr. Miller—Within one-half inch of the back of the hive—enough so that the bees will not glue it to the hive.

Mr. Mooney—Is that false-bottom supposed to be drawn out any time in the winter to take out any dead bees that may lie there, or is it substantially stationary?

Dr. Miller—It is made of thin material—a shallow box with one end opened—and when I first made it I intended to have it put in.

Mr. Mooney—As a draw?

Dr. Miller—Yes; but I concluded afterwards it was less trouble to draw it out and scrape. I believe I would rather have it taken out entirely.

COMB HONEY SAID TO BE BOGUS.

Pres. York—Prof. Eaton has with him a sample of comb honey from Springfield, Ill., which he has analyzed, and I would like him to explain it.

Prof. Eaton—The public in general have rather queer ideas of the adulteration of food products, and I don't know that there is any one product that they have more misleading ideas about than the adulteration of, and the price of, the pure article of honey. A lady came to me with a sample of honey which was granulated. It was reported that it looked as if it was adulterated. It was rather white in appearance; being solid she was sure that it must be adulterated. I had hard work to make her understand that, if anything, the granulation was a sign of purity rather than of adulteration. Of course, all granulated honey is not pure, but glucose does not granulate. A great many people have the idea that honey must be adulterated if it solidifies, and the newspapers have lately given the public the idea that all white comb honey must be adulterated. You know that is a fallacy. That false statement has brought us a number of samples. This sample is vouched for as being artificial by one of the State officials of Springfield, and, consequently, I made a more than usually careful examination of it, as it was sent up to me with almost an affidavit that it was manufactured, comb and all. I telephoned for Mr. York and had him examine the honey. I knew he was an expert along that line, and he said it showed every appearance of being manufactured by the bees. I have examined quite a number of samples of comb honey, but I have never yet found a sample in which I did not have every evidence to lead me to believe that it was made at least in part by the honey-bee. This sample is granulated in part and is quite white, but under the microscope I find evidence of pollen, which of course indicates its natural origin; and you will notice many other indications which would lead one to believe that it is made entirely or partly by the honey-bee. It apparently has comb foundation in it, which I suppose a great deal of the honey put on the market nowadays has. I examined the honey extracted from it, and find it to be pure honey; the comb has also been examined, and up to the present time I have found nothing in the examination of the comb that would lead me to believe that it is anything else but pure beeswax. There is one little anomaly in the composition. It doesn't have the same composition as some beeswax.

Mr. Dadant—Was the comb cut, or open, or sealed?

Prof. Eaton—Just as it is now. It came as you see it here, with something on the top and bottom.

Dr. Miller—The capping is there now.

Prof. Eaton—Knowing both the honey in the inside to be pure honey, and the comb to be what I believe is pure beeswax (although I have not definitely decided that yet), and as I find evidences of pollen, I cannot help but conclude that that sample is pure honey, in which conclusion I am aided by Mr. York, who says that it has every external evidence of being pure honey. If any of you can see anything to the contrary from the examination of the sample I wish you would tell me. I don't want to make a mistake.

Mr. Dunn—It was sent as a bogus article?

Prof. Eaton—Yes, sir. The statement was made that there is a lot of adulterated comb honey sold at Springfield.

Mr. Purple—In that sample, what percent of foreign substance did you find? (Referring to a sample of adulterated extracted honey.)

Prof. Eaton—I wouldn't like to state the exact amount of adulteration of any sample of honey. I don't know the composition of the original honey, nor the glucose, because they vary. As Mr. Dadant says, every bee manufactures a different product. If I knew the composition of the original honey and glucose in a given mixture, I could tell the exact proportions.

Mr. Dadant—I think that I must have said that the different blossoms give different results; because I don't think that the bees would make very much difference in the result.

Prof. Eaton—Perhaps that was what you intended, and

said. At any rate, I think it is true, where you have individual bees working, the bee will work on different flowers and perhaps create a different flavor.

Mr. Dadant—If it was what I said in regard to leaves in the woods, what I meant to say was this: That in a section of honey the cells are not all filled up—you will find an empty cell here, two or three there, one over here; then the undulation of the comb. There is another one here, and there are no two alike. I didn't mean to say that the bees made it different; I meant to say that they built it as the leaves of the trees grow differently. I don't care if you take combs or sections of honey, put them side by side, the formation is entirely different. If man—granted that he could, for the sake of argument—build that comb, make the honey and seal it, whenever he sealed them over he would seal them all alike, unless he had two or three, or half a dozen, samples; but take a carload, and one section is just as much unlike the other as two trees. I am conceding the possibility of sealing combs. Prof. Eaton, excuse me for interrupting you so long. You can use the same argument as we do. Grant it that people say that honey is manufactured and put in the comb and sealed. They stated or claimed that the chemist said that the genuine bees' honey has a brown coloring around the cells, and that glucose honey is perfectly white. Take three out of half a dozen sections, you can show him they are not alike—one empty cell here, and there, and that they are never in the same places. How is a human going to begin to do that? You make artificial leaves—you know when they are artificial. Anybody can tell an artificial leaf from a natural leaf. Take all the leaves in one timber, and you can't find two alike.

Prof. Eaton—I accept your correction. I think you can apply the same reasoning to the honey itself. I say the grade, the quality of glucose and cane sugar, would differ; but the saliva of the bee, I take it to be about the same, and that's all she puts into it.

Mr. Dunn—Will glucose granulate?

Prof. Eaton—Not commercial glucose.

Mr. Dunn—Has that been in a cold place? (Referring to the piece of comb honey.)

Prof. Eaton—No, sir.

Dr. Miller—Is there grape-sugar in honey?

Prof. Eaton—There is grape-sugar. There is dextrose (grape-sugar) and levulose forming inert sugar. The commercial glucose contains dextrose. There is dextrin and dextrose in honey but no commercial glucose in honey, and there is not, in a chemical sense, any glucose in honey. Glucose refers to a group of sugars in a chemical sense. It does not refer to any one product.

Dr. Miller—I have watched with exceeding interest the very careful manner of the chemist in making his statements. It occurs to me that if all the statements that go from the Pure Food Commission to the public are made as carefully we bee-keepers will not suffer.

INJURIOUS NEWSPAPER STATEMENTS.

"What can we do to counteract the injurious statements in the newspapers concerning honey?"

Mr. Dunn—I move you, sir, that in view of the statements that have appeared in the Chicago Tribune, it is the duty of this body to set that matter straight. We represent the honey-men of the United States, and inasmuch as that statement has gone forth, it behooves us to answer it on behalf of this organization. I move that Dr. Miller, Pres. York, and Mr. Dadant, be appointed a committee to reply to that article in the Tribune, because they are the best competent to do it.

The motion was seconded and carried.

Prof. Eaton—One other thing I think you can do, or at least I will try to do it for you, and that is, to have incorporated in the report of the State Food Commission, a statement similar to what you gentlemen have said in my hearing here, that it is impossible to adulterate comb honey, and quote the fact of the reward for any adulterated comb honey found, and make the statement that there never has been a sample of adulterated comb honey found.

Mr. Moore—One of the reporters here suggests that this motion in regard to the article in the Tribune should say "the newspapers," whereas, if we mention the Tribune, it will not be taken any notice of by the other papers.

Mr. Dunn—I believe in taking the bull by the horns. We have a right here, as an organization, as well as ordinary common-sense individuals, to put the blame where it belongs. Why blame the Chicago press? If they refuse to publish the resolutions of our meeting—

Mr. Dadant—Mr. Dunn is right. We as bee-keepers meet, and they say these lies about us and we stand and say nothing, and that means they are true. They can say these folks met and passed a resolution as to that. Here is a cartoon showing me putting the honey into the cells!

Pres. York—Yes, that's you. The man in the picture has whiskers, and so have you. [Laughter.]

Mr. Dadant—He is right, let us protest.

Dr. Miller—I don't know whether we are all understanding this thing alike. Now, if one paper makes a false accusation, that paper ought to make a retraction. The next question is, is it not desirable—

Mr. Dunn—You bet they will all take it.

Mr. Miller—Then let us go before all of them.

Mr. Moore—This reporter suggested merely a technicality. If we mention the Tribune the other papers won't pay any attention to it. But if it is stated "in the newspapers," then the City Press Association puts it in, and sends it to all the papers and they report it.

Mr. Dunn—The Tribune can very well say that they were misinformed. We are going to state positive facts here. We are going to challenge the statement that has been made.

Mr. Moore—This reporter represents every paper in Chicago—his report will be sent broadcast. If we refer to a particular paper, there is no attention paid to it. Substitute in place of Tribune, "in Chicago papers."

Mr. Dunn—These gentlemen have common-sense; they won't insult any one.

Dr. Miller—Allow me to remark, that is capable of two interpretations. One is, they must answer in the Tribune the article in it. It is the article in the Tribune that is wanted to be answered. I don't know what I can do with the other two stubborn heads, but I suppose the committee will do what might be best for the bee-keepers!

Pres. York—We have a pure food show at the Coliseum, and one of the circulars to be distributed at that show has on it the following:

"A REWARD OF $1,000

for the discovery and presentation of A SINGLE POUND of manufactured comb honey has been standing as an offer for about 20 years, and is still untaken. Why? Simply because there is no such thing as manufactured comb honey, and there never was a pound of comb honey that the bees didn't store themselves.

"A U. S. Government chemist started the story, or lie, about this matter, and when pressed for a reason for his libelous statement, said he did it as a scientific pleasantry. And there are thousands of people who believe that lie about comb honey being manufactured. He said the comb was made of paraffine and then filled with glucose, sealing the cells afterward with a hot iron, or by some equally impossible manner.

"What a pity that so honest and honorable an industry as honey-production should have to suffer so greatly, and so unjustly, just because of the foolish utterance of an otherwise sensible man. Nothing that he can ever say or do toward undoing the awful wrong he did to bee-keeping will atone for the mischief his first statement did. It doesn't pay to try to be funny, particularly when one must tell a downright lie in order to amuse."

The convention then adjourned until 7 o'clock p. m.

(To be continued.)

Contributed Articles.

Experiments in Rendering Comb into Wax.

BY C. DAVENPORT.

DURING the last 8 or 9 years I have used quite a number of divisible brood-chamber box-hives. But, for reasons I will not now take space to explain, I decided last season to quit using this style of box-hive, or at least such large number of them. This decision gave me a large amount of combs to render by some means into wax. I also overhauled the brood-chambers of about 150 colonies in frame hives and cut out all the drone and old, crooked combs and replaced the same with foundation. The old comb I, of course, also wished to convert into as much wax as possible. Now all of this comb is not rendered into wax yet, and some of it never will be, for the moth-worms "got away" with quite an amount of it last season.

I wish to say, before going farther, that I do not believe any man, living or dead, ever did more experimenting in regard to rendering wax than I have, or spent more money for different machines and appliances to be used in this work. I do not say this because I consider there is any credit or honor about the matter; far from it, for all the wax there

was in the large amount of refuse comb I had would be worth but a very small part of the money I have paid out, to say nothing about the time and work. With this, as with many other things in regard to our pursuit, an irresistible impulse has seemed to draw and lure me on.

Previously I had rendered comb into wax by the kettle-and-sack plan, but having heard the Ferris steam wax-press very highly spoken of, I secured one of the latest improved. I next made a steam machine, or rather, had one made, on something of the same plan as the Ferris; it was made very strong, and so constructed that the refuse could be subjected to enormous pressure under boiling water; the baskets were long and narrow, and there were two powerful screws, one at each end of the basket. This machine cost me $21, and I sold it for $4.50.

I next had a machine made on a different principle; with this one the wax was rendered with boiling water, and the refuse or slumgum subjected to great pressure under boiling water. I will briefly describe how this machine was made:

It was about the shape, only a trifle larger, of a common, No. 9 wash-boiler. This outer part was made from heavy galvanized iron to fit the inside of this, and leave a space of about 2 inches. Between the two was a basket in which the combs were to be placed, this basket also being held up from the bottom about two inches by means of a heavy, iron spider, which was riveted and soldered to the bottom and sides of the boiler. The method of using this machine was to set it over a fire, put in three or four pails of water, and, as soon as it began to boil, put in as much old comb as the basket would hold. After it had boiled a short time a follower that just fits the inside of the basket was placed on and pressed down by means of a powerful screw at each end. These screws were attached on something of the same plan as those on the Ferris machine, but instead of being small ones, they were made from two medium-sized jack-screws. After the follower had been pressed down the wax would of course rise to the top of the water and was dipped off. This machine cost me $29.00, and I sold it for $7.00. I regret now that I did not keep this machine, for it may be that it is as good a machine as I will be able to devise.

The Root-German steam wax-press (one of which I purchased) could be made with but little change so that the refuse could be treated to pressure under boiling water, if desired; and the Root machine has a large and very powerful screw.

I next decided to make a machine on the Hatch-Gemmill principle, that is, boil the comb and press the refuse in a separate machine, for the inventor and one of the users of this style of press told what a large amount of wax could be secured from old comb when this method was practiced.

I sent to Chicago for a powerful screw, with which I at first used a 4-foot lever or handle to turn it, but this did not give power enough to press out all the wax from the slumgum. I next put on a 6-foot handle, but still the power was insufficient. I then put two men on the lever, and broke the screw. I do not believe it would be practical to apply power enough to secure all the wax from slumgum treated on this plan. I could take up a handful of the refuse that had been subjected to pressure by this method and squeeze out wax from it with my hand. I do not mean the wax would drip out of it, but there was wax enough in the refuse so that it could be plainly seen by squeezing a small quantity in one's hand. Of course, a good deal of wax can be secured from the refuse when treated to strong pressure in this way, but by no means all of it.

The readers, if there are any who have followed me this far, may wonder why I bought and made so many different machines. I was not fully satisfied with any of them, and it seemed as if I could improve or make the next one a success.

I also made three or four other machines; one of these treated the refuse to pressure by passing it through rollers. I had great hopes of this principle, but I have given it up as impracticable. Another principle that I have tried, though, leads me to believe that we have been making a mistake by endeavoring to secure all the wax from the refuse by great pressure, for with moderate pressure combined with agitation I secured a considerable amount of wax from refuse that had been subjected to great pressure under the Hatch-Gemmill process.

A far greater percent of wax can be pressed out of the slumgum if the pressure is done under boiling water, but contrary to what some seem to infer, all the good the water does in this case is to keep the refuse or slumgum boiling-hot while the pressure lasts. After only moderate pressure has been applied no water can penetrate the mass.

When the refuse is dipped out into a separate press the wax, or at least a part of it, gets below the boiling-point at once, and the colder it gets the greater pressure it requires to press the wax from the slumgum. When it gets too cold I do not believe any force it would be practical or possible for us to use in this manner would separate the two.

In pressing refuse or slumgum, whether it has been rendered in water or by steam, or if it is pressed under water or in a separate press, a great deal more wax can be secured if the screw just fits down loose on the follower than can be had if the screw fits in a socket rigid so that the follower has to go down even. Especially is this so when a cloth is used to hold the refuse. Why this is so I am unable to explain. Of course, with any of the machines I have mentioned, what refuse comb I had could soon have been rendered into wax, but I kept the comb on hand because I wanted plenty of material with which to test my new or different machines. But this pastime or holiday work must soon cease, for a while at least, for the time draws near when my real work of producing comb honey will begin for the season.

Southern Minnesota, April 7.

Tongue Length and Glossometer—Co-operation.

BY PROF. A. J. COOK.

I WAS surprised at our good friend Hasty's suggestion of criticism of my statement, that the tongue length of bees as ascertained with the glossometer must agree with the measured length as indicated by the microscope. Why, bless your heart, Mr. Hasty, both tell the truth, and truth never wars or quarrels with truth. The old-time hog had an infinite nose. He was a rooter. With such a hog a plowed meadow only required propinquity. The hog present, and the meadow must be rooted.

The microscope told of the long Syrian-bee tongues—told that all had long tongues, or that their tongues were surprisingly uniform, and all of great relative length. The same instrument spoke of equal uniformity and the same relative brevity of the tongues of black bees.

Mr. Hasty, all bee-keepers know that all bees will push hard for nectar. If the glossometer is put into the hive they will reach to the utmost for the coveted sweet. The Syrians having the longest tongues, they must clean the glass farther than the equally eager black bees. If I had said they must gather more or whiter honey, it would be different. They usually will gather more because of their longer tongues, as they can reach the nectar in flower-tubes which is inaccessible to bees with shorter tongues. They will also be able to reach deeper into long, tubular flowers, and thus get more. They might have other characteristics that would prove a greater hindrance than would be the advantage gained in the longer tongues, when, of course, they would really secure less nectar. In many cases, too, as in the case of such flowers as linden, sage and figwort, the honey is so exposed, and so easy of access, that any tongues can reach it in its entirety; and here the short tongue would serve as well as the long.

We cannot have bees with too long tongues, but with these we also must have in the perfect bee all the other advantages, like early habits, maximum activity, eagerness to defend the hive, etc.

In a letter from Prof. Gillette, he objects to my method of obtaining the tongues. I cut off the heads of the bees, and then dissect out the tongues. Prof. Gillette threw the bees into hot water. His objection to my method is that the tongue will move. Of course we must wait until the muscles die, which requires many hours, often a full day. I have known a headless wasp to inflict a painful sting more than 12 hours after it had lost its head. Of course the muscles were not all dead yet, and the sting will be thrust out as long as the muscles are alive. Might not the hot water set the muscles? If we stretch the tongue by pressure on the mentum as soon as the muscles are dead and inactive, and before regor mortis has set in, I believe we have the conditions best suited to give the most correct results. I have reason to think so from the uniformity of results in the measurements of bees from the same colony.

CO-OPERATION AMONG HONEY-PRODUCERS.

We have great reason to hope from, the temper and spirit of our late and last convention, that we should very soon have a honey exchange that would rival in excellence and advantage to its members the Citrus Fruit Exchange of

Southern California. That organization saved the citrus industry. I now markets 60 percent of the citrus fruits, and with the present rate of growth it will soon handle nearly or quite all. The great advantages arising from buying supplies cheaper; packing better, cheaper and more uniformly; distributing more wisely in the market; developing more and better markets; of keeping informed most thoroughly as to the state of the markets, throughout the entire country; and of keeping all the profits to the grower, are simply stupendous. It is co-operation on a large scale, and is blessed in performance.

The bee-keepers desire to enter an exchange, but at the same time wish to keep the right to sell their own honey if they will so to do. Of course no such exchange could live. It must know its supplies as to quantity, quality and whereabouts, else it cannot command the market. In case any bee-keeper learns of a good market at a high price the exchange will be glad to know of it, and give the bee-keepers the advantage of it. But, of course, the organization must handle the honey, and, unless this is permitted, the organization would be like a rope of sand.

There are two things that stand in the way of the rapid realization of such organizations. People are slow to trust them, and quite as slow to pay salaries that will secure the ablest management. A bee-keeper or fruit-grower who works hard the entire year, and counts his income possibly with three figures, finds it hard to see why the manager of an exchange should receive a four-figured income, with the fourth figure probably a large one. It is simply this: In doing business, as does the Citrus Fruit Exchange, that reaches up into the millions, a shrewd business sense will often, in a single deal, save many times the salary of the manager. He must be far-sighted, alert, cautious, experienced. The railroads, and all large, successful corporations, are all the time looking for such men; once found, and they will have and keep them at any price. The exchange must be the same.

The Southern California Citrus Fruit Exchange pays its manager $8.000. I am free to say that she is wise, and would far better add to this large sum, if such addition were necessary to keep him. This organization does business away up in the millions of dollars, and yet, for several years, has met no losses at all, in the way of bad sales; does the business for 3 percent of sales; has the full confidence of the trade; and is developing a constantly larger and better market. All our rural industries must and will wheel into line. Let us all urge that it be soon.

Los Angeles Co., Calif.

Something on Honey-Flavors, Marketing, Etc.

BY THOS. CHANTRY.

IN reading the report of the Chicago convention, on page 213, I could hardly keep my seat. I wanted to add a little of my own experience to the question, "What is the best honey?" I see that the bee-keepers there like sweet clover, principally, but want a little aster or goldenrod or something in with it to modify it a little. How many have tried, as I have for years, to carry a glass or sample of 5 or 6 different kinds around from house to house, and exhibit at fairs, and always insist on everybody, who likes honey at all, to sample all kinds with pocket-knife, table-fork, or toothpicks, and note how different people are in regard to taste, even among members of the same houshold?

Most think honey is honey, and the notable difference in taste between sweet clover, alfalfa, white clover, basswood, goldenrod and buckwheat, for instance, will give rise to many questions of how they can be gotten separately, and give good opportunity to explain the use of the extractor, and why extracted honey can be profitably produced at a lower price than comb honey; and, in time, you will learn to tell when asked "Which is the best honey?" (before tasting the samples). They are all good honeys, and as to food value one is as good as the other, but I can't tell by looking at you which you like best.

Now, since you like your sweet clover a little mixed with some other, I would say if you have pure basswood honey put in $^1/_3$ alfalfa, and people who like basswood honey will like it better; also to your pure buckwheat put in $^2/_3$ alfalfa and it is so mild it is not noticeable to the taste, only makes the buckwheat flavor less rank, and improves the whole; and you will be surprised to see how many will like it better than any other and order it. Also California sage should be diluted with alfalfa. I say alfalfa because it is so mild and of such good body.

Dr. Miller expresses the idea about too much flavor, and I find it pays to teach people the difference, and label each kind always true to name.

One store sold over 500 Mason jars of honey this season, nearly all candied, because it is cleaner to handle; clerks like to handle it better, and people can take it home safer and eat it candied, or melt it, as they please. The result is all because I took special pains to give every man, woman, and child in the small town, who was fond of honey, a taste of the various flavors, and explained how we kept the various kinds separate, etc. I told them that I would put my honey in the store, always labeled true to name, advised them to remember which kind they like best, and, to call for it at the store. If they ever found I have deceived them, to take it back and get their money. So well has this experiment of thorough canvass succeeded that if I only had the time to go to every town in the United States and do likewise, I could use almost an unlimited supply. I have added two more towns to my list of thoroughly canvassed—educated somewhat in regard to honey. I gave them an opportunity to educate themselves about flavors, and already the stores are asking for more honey. One small town has used over 1,000 pounds, while two towns four times its size, on either side, have used 120 pounds, all because of a little time in educating people as to what extracted honey is, how much difference in flower-flavor, how to melt when candied, etc.

Now, in mixing various honeys, heat from 130 to 160 degrees, stir thoroughly, let it stand an hour and skim what foam rises, then draw off into jars properly labeled true to name, and put in the store and let it candy when it may; the label will explain that.

When I say mixed-flavored honey, I don't mean adulterated with glucose or syrups—no, no, but mixed one flavor of pure bees' honey (perhaps of strong flavor) with another pure bees' honey of a milder flavor.

Naturally, we would generally get buckwheat honey with some of the last of clover or basswood, and then with some goldenrod, heartsease, or aster, but principally buckwheat; also sweet clover in our country here will get mixed more or less with other clovers, and shoestring, snowdrop, etc.

Oh, for a honey exchange that would see to it that our good honey was properly put on the market, in a standard but otherwise useful package, properly labeled true to name. One man cannot do it. The creamery men see to it that their fancy butter gets to the consumer in good order, and not mixed with oleo; then why shouldn't the bee-keepers do the same, and not throw it on the general market, and let it be mixed with glucose before reaching the consumer, and perhaps labeled "Red Top Clover Honey," or "California White Clover Honey," or, as I saw in Sioux City this winter, "King-Bee Honey?" Such stuff, along with poorly ripened, strongly flavored honey, tends to disgust the public with extracted honey. In fact, all my remarks refer to clear or extracted honey.

Clay Co., S. D.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

HAVANA LITTLE GIRLS AND HONEY-DEW.

As for the nice frontispiece for April 10, I can't make very much connection between bees and the little girls of Havana having a procession in the street, teachers alongside—but I'm glad to see the little girls all the same. If it's true that without love the world wouldn't go round, it's still more true that without little girls, there wouldn't be any world to go round—and then the great big question whether honey-dew is ever actually dew couldn't be "argied." You see, I'm a little disposed to open the chest where we keep last century's chestnuts, because at my apiary I recently had a case where bees in such enormous numbers were at the dew on the grass and herbage that it hardly looked possible that water only was what they were after. Still, perhaps it was—each one getting a drink for herself, and then promenading and sunning herself awhile before going home.

THE POST CHECK.

In other words, the Post check is a dollar bill (or other denomination) with room and lines to write on it. When it is once written on it is no good until redeemed, and therefore not desirable to steal in transit. But and if the thieves in making a haul take it along, and finally destroy it—well, I haven't found out yet where the remedy comes in. Nevertheless, let's have the Post check. Say, have a coupon on one end to be cut off, or not to be cut off, as the sender chooses, and to be payable after six months if the body of the note is not presented. Page 237.

WINTERING BEES IN A FURNACE-ROOM.

Seemingly preposterous experiments with bees are quite apt to turn out all right. C. B. Howard contributes one by wintering bees in the furnace-room of his cellar. That experiment should be repeated; it may contain the germ of something valuable. I'll venture the guess that it will usually turn out well, so far as the bees are concerned, but that sometimes flying bees will be a nuisance to the one who tends the furnace. Page 238.

WAX-WORMS ON BASSWOOD.

And now comes a man who sees wax-worms prey on the basswood and let the pine alone—just the opposite of the report sent in a bit ago. The man is Mr. A. Ziegler. So merrily we swing around the circles, and get more facts than we can find pigeon-holes for. Page 238.

PERHAPS A JOKING MINISTER.

A. E. Taylor may not be such a bad minister, after all. He was joking; and presumably said what he did with the verdancy of a child. Didn't think (or never heard) what immense mischief has been done by just such jokes, and the statements not jokes which they give rise to. Neither did he realize how sore bee-folks are on that spot—nor what a-lot of them feel ready to trade a kick for a joke. Page 243.

SWEET CLOVER HAY.

I was decidely surprised that the call for a man who had a whole load of sweet clover hay in his barn should so nearly fail of response—after all these years of agitation and publication in the matter. What shall we do about it? Vociferate a little louder, and tear the strips of our raiments a little longer, or give the whole thing up? Mr. Baldridge was able to certify some extensive use of it for hay in the South. They can cure it there—and are also in most distressing need of something to make hay of. I suspect the great hindrance in the North is that suitable hay-weather mostly does not come so soon as sweet clover needs cutting. Page 228.

MR. AIKIN'S WAX-SEPARATOR.

In the cut of Aikin's wax-separator, on page 234, there is a funny source of error. We think we see two galvanized iron pails. Mentally estimating them at ten inches high, or such a matter, we see the device standing up as tall as a man's shoulders, and big in proportion. When we read it is seven inches high and two inches wide on the bottom, we are rather taken back.

Good style of straining. McIntyre, of California, was one early practitioner of the gravity method of straining, if I remember rightly.

EXTRACTING WHEN THE WEATHER IS COLD.

To extract honey successfully 20 degrees below freezing would be quite a triumph, surely; but he didn't mean exactly that. He meant when the *weather* was that many degrees to the bad. The process of warming up can be helped along materially by bringing the combs into an ordinary room, which stands at 40 or 50, a day or two beforehand. Page 236.

RIPENING CUBAN HONEY.

Rambler told us Cuban comb honey was ripe, but he did not tell us why Cuban extracted honey could not be well ripened, too. One would think that with an honest sun overhead, and an honest son beneath, the feat would be possible. Page 236.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Increasing by Dividing.

I wish to increase my bees when the time comes, and I want to do it artificially. If I put a new hive on an old stand with starters, and queen clipped, with almost the entire swarm, and then put the old hive on top of the new one with the rear end in front, entrance closed, and put a tube at the rear end for the hatching bees to escape, how long must I leave the tube on? Should I put moisture or water in the old hive? How long should I wait before I give the old colony a ripe queen-cell? COLORADO.

ANSWER.—I have had no experience with the plan you mention, and I doubt the advisability of trying it. If, however, there are those who have tried the plan and approve it, I will gladly give them the floor to answer you. In late numbers you will find some plans for artificial increase that may suit you.

Early Drone-Killing and No Swarming.

Why do some colonies make such cleaning out of the drones, and so early in the spring? I have 2 hives now that have a large quantity of dead and some live drones ejected. I had 10 colonies last year; the spring was late and cold, like this spring, and quite a number of colonies emptied their hives of drones, and I had but one new swarm. I got from the 9 colonies a little over 250 pounds of surplus honey last year, and it looks as if the bees have started to do the same thing this year. All the colonies are working well on fruit-blossoms now. Let me know the cause of early drone-killing, and no swarming. WASHINGTON.

ANSWER.—Bees may vote down drones at any time when stores appear to be getting scarce. They may also vote that they have no immediate use for drones when the old queen has been superseded and a new one has commenced laying, even if the superseding comes early.

Honey, Not Increase, Wanted—Italianizing—Managing Swarms.

1. I have several colonies of bees in 2-story 8-frame dovetailed hives. I wish to manage them for comb honey and no increase. Our main honey-flow is white clover, beginning about June 10. What plan would you advise?

2. My bees are blacks and hybrids. I wish to introduce pure Italians. At what time of the year would you introduce them? And would you get laying or untested queens?

3. Would it be better to buy queens reared in this latitude? And is there a liability of introducing "foul brood" with a queen?

4. Under all conditions would you give full sheets of comb foundation in frames and in sections, to a swarm? If not, what would be the exception? When would you add the super? ILLINOIS.

ANSWERS.—1. It is just possible that by allowing them to continue in the two stories (if by that you mean that there are two stories in the brood-chamber), there may be no swarming. One way is to have the queen clipped, destroy the queen when a swarm issues, and when the young queen pipes, a week or more later, destroy all queen-cells.

2. You can introduce queens almost any time, but the introduction is less risky when bees are gathering, and it is easier to get queens after the June flow begins. Untested queens are always supposed to be laying queens, only they have been laying so short a time that their worker progeny have not yet hatched out. If you want to be entirely sure of what you get, it will be well to get tested queens; but it will cost less to take some risk and get untested ones.

3. I don't know as it makes much difference about the latitude. No honest man would send you foul brood, but to

make matters safe you can kill all the escort bees without fear as to conveying the disease.

4. If I wanted to be very saving in outlay, I would give a swarm four or five frames with starters, and when these frames were filled out I would give the remaining frames filled with foundation. I do not think of any other condition except that of the necessity of economy that would make it desirable to do other than to give full frames of foundation to fill the whole hive. The super may be given to the swarm as soon as it is hived if a queen-excluder is used, otherwise there should be a delay of perhaps two days to avoid the danger of having the queen go up in the super.

Introducing Queens.

If I take an Alley queen-trap and trap the first queen, can I introduce a new queen without using an introducing-cage, if I don't catch the swarm? WISCONSIN.

ANSWER.—If you have an Alley trap at the entrance, the queen will be caught in the trap and the swarm will return; and I suppose your idea then is to remove the queen that is in the trap and give another queen in its place. The chances are that the new queen will be killed. Even if caged, the plan would not be a success, unless you wish the bees to swarm with the new queen.

Putting on Supers—Placing Hives.

1. My bees work from about 7 a.m. till the sun goes down when it is a nice day, and they have something on the hind legs as they go into the hive. Can you tell me what it is? It looks like honey.

2. When do you prefer to put on supers.

3. Will bees do as well to have their hives all in a row about 12 inches apart, or is it better to have them further? IOWA.

ANSWERS.—1. Bees never carry honey on their legs. Usually the load carried on their legs is pollen, but pollen does not look like honey. Sometimes propolis or bee-glue is carried on the bee's hind legs, and looks somewhat like very thick honey.

2. As soon as the first white-clover blossoms.

3. They are better not to be placed regularly quite so close together, but you can manage to have all right without occupying any more ground. Leave the hives with the odd numbers, 1, 3, 5, etc.; right where they are, and then move No. 2 close up to No. 1, No. 4 close to No. 3, No. 6 close to No. 5, and so on.

Increase Wanted—Extracting Honey.

1. I put 9 colonies into the cellar to winter, one of them being a nucleus colony that I started about September 15. You remember I wrote you during the winter the particulars about this colony. I put them out April 5. Well, all of the 9 colonies are in good shape, as far as I can see, and I thought I would divide them instead of letting them swarm. I have 3 extra hives on hand. Do you think I would better divide, or let them swarm once? I want to increase, but not too fast.

2. Can I, or rather would it be practical to extract from the brood-chamber the frames of honey used during the winter or spring?

3. What is the best plan to arrange the hive for extracting? Should I use a double hive, or just the brood-chamber of one hive?

4. Is the Cowan extractor as good as any?

5. Would you advise me to get a 2-frame extractor? I intend to keep bees always, and want to keep 40 or 50 colonies, so you can judge from this. As I never saw an extractor at work, I do not know much or anything about it. NEBRASKA.

ANSWERS.—1. If you have not much experience in the matter, perhaps it will be as well to let each colony swarm once.

2. If warm enough, and if the honey is not granulated, it can be extracted. But it will almost surely be better to leave it in the brood-nest. You will find that up to the time of the beginning of the main honey-flow the bees will consume a large amount of honey, and if you extract all out of the brood-chamber you will compel the bees to fill up the space you have made vacant before they do anything in the super. It is not at all likely that there is any more honey in the brood-chamber now than there should be.

3. It is not considered a good plan to disturb the brood-chamber at all by extracting the honey from any of the combs in it. Put a queen-excluder over the brood-chamber, and over this put a second story to contain the extracting-combs.

4. Yes, it is an excellent extractor.

5. Unless you expect to run above one or two hundred colonies, the 2-frame will be all right. Some say it is all right for 200 or more.

Painting Hives—Foul Brood—Wax-Extractors.

1. Will it hurt bees to paint the hives they are in?

2. Is there any danger of getting foul brood by introducing queens bought of queen-breeders?

3. How can I make a good solar wax-extractor? VERMONT.

1. No, except that with ordinary paint there may be a little trouble in having their feet daubed with it while it is very fresh. It will help the matter to use a drier in the paint and to do the painting in the evening.

2. It is pretty generally agreed that a queen will not carry the disease, but the workers might if taken from a diseased colony. So it is safe to kill the escort. Answering your question on general principles, it might be said that the danger of getting foul brood through buying queens is very small; for an honest man would not sell queens if he had foul brood in his apiary, and the number who would be so dishonest as to send out the disease is probably very small.

3. That depends a good deal on what you mean by "a solar wax-extractor." You can put a pane of glass over a box, and have in the box a sheet of tin with small perforations, placing on this the scraps to be melted, with a receptacle underneath to catch the melted wax, and it will do a good bit of work. If you mean a solar wax-extractor as good as one you can buy, it will not pay you to undertake it, and it would not be worth while to give a description, for you can buy one cheaper than you can make it. If you want something still better than a solar wax-extractor, get a steam wax-press.

Spraying with White Hellebore.

If gooseberries and currants are sprayed with white hellebore, will it do any harm? Will it kill the bees? OHIO.

ANSWER—That depends upon when the spraying is done. When the plants are not in blossom, the spraying will do no harm. Spraying when the plants are in blossom will be a damage to the bees and also to the fruit crop.

A Beginner's Questions.

1. Does the old queen come out with the first swarm? If so, how old is the virgin queen at that time?

2. How many days old is she before she makes her bridal trip?

3. Do they ever mate while swarming?

4. After the young queen hatches, how long will the two stay in the hive without swarming or killing one of them?

5. I hived a good swarm April 20. Will they be apt to swarm this year if I give them plenty of room? I gave them three frames of drawn comb and five with brood-foundation starters.

6. How soon shall I put on a super? SOUTHERN ILLINOIS.

ANSWERS.—1. The old queen comes out with the first swarms generally about the time the first queen-cell is sealed, or about a week before the young queen leaves her cell.

2. Somewhere from five to ten days old.

3. Sometimes.

4. The old queen leaves before the young one leaves her cell.

5. Likely not; but they may.

6. Just a little before the main flow begins. In your location it is likely white clover is the first thing from which surplus is stored, and you should put on the supers as soon as you see the first white-clover blossoms.

I am sorry you didn't ask the question, "Should I get a text-book?" Of course it might not do for me to answer the question you have not asked, but if you had asked a question of that kind I should have said that it would probably be big money in your pocket to pay $5.00 for a text book, and then study it carefully.

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To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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GENERAL ITEMS

Encouraging Outlook for Honey.

All things considered, the outlook for a good honey-flow in Utah is encouraging this season. There is plenty of water for irrigation nearly all over the State.

There have been some winter losses in some localities, but, as a rule, the bees have wintered fairly well, and barring the danger of grasshoppers, in two or three places, good crops and a good honey-flow are confidently looked for. It is to be hoped that the tremendously heavy rains the past month may have rotted the eggs. Where there was a partial failure last year the principal cause was drouth and grasshoppers; these causes being wholly or partly removed, we know of no reason why our farmers and bee-keepers should not succeed this season.

Smelter-smoke is still the principal cause of trouble in Salt Lake County.

E. S. LOVESY.

Salt Lake Co., Utah, April 26.

Hard Winter on Bees.

It was a very hard winter on bees around here, fully 75 percent having died. They were housed up two months without any flight. The prospects are good for a good crop of honey. All kinds of fruit are beginning to blossom, clover is looking fine, and we are having plenty of rain.

My bees were bringing in pollen in March, which I do not remember ever seeing before.

IRA D. HYDE.

Washtenaw Co., Mich., May 6.

Never Wintered Better.

Bees never wintered better than they did the past winter. The hives are full of bees and brood, and if we can have plenty of rain I think the clover will come on all right, and we will have a good season.

We will hope for the best, and get the bees ready for the crop when it does come.

Grant Co., Wis., May 3. M. M. RICE.

Rearing Long-Lived Worker-Bees.

A subscriber desires me to explain what is meant when I say, on page 302, "Next I found I could rear queens from my poorest queens that produce long-lived workers."

I mean when I say "poorest queens," that such queens are below the average in every respect, less prolific, and whose workers are short-lived so their colonies are always weak.

It is the manner in which the queens are reared that causes long or short lived workers. I was a long time studying how this was done. I have lost hundreds of dollars since 1868, in experimenting with bees, as to just how to rear queens whose workers are always long-lived. All queen-breeders know there is a great difference in queens and the longevity of their workers, but do not know why.

Lucas Co., Iowa. GEO. W. RIKER.

Is it a New Bee-Disease?

I have 21 colonies of bees here, and all seem to be in good health but one. They have been dragging out dead and helpless bees for the last month, but the weather has been too cool and changeable to open the hives, so I left them alone until yesterday, when I concluded to take off the cover and look in, and on doing so I noticed a few of the affected bees at the top of the frames. I took out over one-half of the combs and found the queen, which appeared all right. The colony seemed quite strong with bees, and combs well filled with eggs and brood. There was no foul odor from the hive, and the brood in all stages looked healthy, so far as I could see, but it

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

QUEENS!

Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North

The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

We have files of testimonials similar to the above.

Our Breeders originated from the highest-priced, Long-Tongued Red Clover Queens in the United States.

Fine Queens, promptness, and square dealing, have built up our present business, which was established in 1888.

Prices of GOLDEN and LEATHER-COLORED QUEENS, before July 1st:

	1	6	12
Selected, Warranted	$1.00	$5.00	$ 9.50
Tested	1.50	8.00	15.00
Selected Tested	2.00	10.50	
Extra Selected Tested, the best that money can buy	4.00		

We guarantee safe arrival, to any State, continental island, or any European country. Can fill all orders promptly, as we expect to keep 300 to 500 Queens on hand ahead of orders. Special price on 50 or 100. Free Circular. Address all orders to

Quirin the Queen-Breeder,
PARKERTOWN, OHIO.
[Parkertown is a P. O. Money Order office.]
15A26t Please mention the Bee Journal.

SWEET CLOVER
And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

DAIRYMEN ARE DELIGHTED
to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.
Please mention Bee Journal when writing.

FREE FOR A MONTH....
If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep
has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.
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BEE-SUPPLIES!
ROOT'S GOODS AT ROOT'S PRICES.
Everything used by bee-keepers.
POUDER'S HONEY-JARS. Prompt service. Low Freight Rates.
NEW CATALOG FREE.
WALTER S. POUDER,
512 MASS. AVE. INDIANAPOLIS, IND.

commenced raining before I had finished, so there were three or four frames in the hive that I did not take out.

The bees affected turn black from head to coupling, and the point of the tail end also black; in the last stages they are black all over, and look more like large-winged ants than like bees, having a slick, oiled appearance. They seem smaller, or more slender, than the healthy ones. They are Italians, the queen very yellow, and only one year old, being one that I reared myself last season.

There has not been any contagious disease among bees in this section that I know of. I would like to hear from some of the old professionals—Dr. Miller, Doolittle, or any one else who may have had bees affected like mine are.

I have just re-read the discussion on black brood at the Buffalo convention, but I can't find anything in that that covers my case. If this is something new to older heads than myself, I will watch the colony's progress a few weeks longer, and make another report.

I have kept bees here for seven years, and they have always seemed healthy.

S. A. WILSON.

Siskiyou Co., Calif., April 30.

[It would be well to keep close watch of the colony, also mail a sample of the bees to Wm. McEvoy, Woodburn, Ont., Canada, telling him about them, and getting his opinion. —EDITOR.]

Discouraging Spring.

For two days it looked as if spring was here. It was the coldest, windiest spring I can remember. I had a loss of 8 colonies out of 40 since I took them from the cellar. The cold, windy, sunshiny days dwindled them to nothing. Soft maple buds drop off by cold, and willow for the last few days for pollen makes a more hopeful prospect. But my bees were old ones.

It was so dry last summer that there was no brood after July. The white clover will be very scarce, and all other clovers the same.

N. A. KLUCK.

Stephenson Co., Ill., May 2.

A Bridegroom at Buffalo.

The report of the Buffalo convention is just received in pamphlet form, and I assure you it is highly appreciated, being a handy reference-book, and a fine history of that memorable occasion. I suppose I appreciate it more as it was my first attendance, and I was then on my wedding-trip, and neglected the Pan-American to attend every session of the convention. Pretty good for a bridegroom, eh?

My bees are building up strong this spring, having wintered well, and although the spring is cold I expect them to be in fine condition for clover.

E. B. TYRRELL.

Genesee Co., Mich., May 1.

Another Bee-Sting Remedy.

On page 218, a bee-sting remedy is asked for. For single stings press firmly over the site of the puncture a coin, say a half-dollar, for five minutes. The pressure causes the absorption of the poison into the general circulation, and the local irritation is prevented. I often used this remedy when a boy, in the case of hornet or wasp stings.

GEO. WENTZ.

[We will have to try this the next time we are stung—if we can raise the half-dollar! If there are any banker bee-keepers, they can use twenty-dollar gold pieces, we suppose.—EDITOR.]

The Chaff Hive.

Some one asks, "How is it we do not hear much about chaff hives?" I use them (150), and have for 20 years. Many started with bees in common hives about the time I commenced, and have gone "where the woodbine twineth." Others I know have chaff hives and still have their bees. My loss this spring

Bee-Keepers—Attention!

Do not put your money into **New Fangled Bee-Hives**, but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

Thousands of Hives, Millions of Sections, ready for **Prompt Shipment.**

G. B. LEWIS CO., Watertown, Wis.

NOTICE

THE A. I. ROOT COMPANY have a Branch Store at 10 Vine St., PHILADELPHIA, PA.,

Where they have direct steamboat connections with Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, North Carolina, South Carolina, Georgia and Florida, and low freight-rates.

As this is a main branch, order from any catalog or quotations given from Medina.

Healthy **ITALIAN BEES.** Full colonies, 8 frames and queen, $7.00. Wholesale rates on application.

The "MUTH'S SPECIAL" is a REGULAR Dovetail with a COVER and BOTTOM-BOARD that is ABSOLUTELY WARP-PROOF, therefore the best dovetail Hive on the market. Our illustrated catalog explains it all. You can have one by asking. We sell the finest Supplies at manufacturer's prices.

Standard Bred Queens. None better than our BUCKEYE STRAIN of 3-Banders and "MUTH'S STRAIN GOLDEN ITALIANS," by return mail. 75c each; 6 for $4.00. Safe arrival guaranteed.

THE FRED W. MUTH CO., Front and Walnut Sts., CINCINNATI, OHIO.

Please mention Bee Journal when writing.

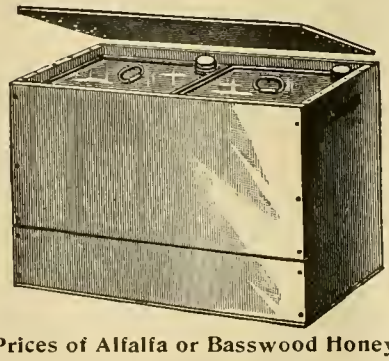
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

An Italian Queen Free!

We would like to have our regular subscribers (who best know the value of the American Bee Journal) to work for us in getting NEW subscribers. We do not ask them to work for us for nothing, but wish to say that we will mail ONE FINE UNTESTED ITALIAN QUEEN for sending us ONE NEW subscriber for a year, with $1.00; or 2 Queens for sending 2 new subscribers, etc. Remember, this offer is made *only* to those who are now getting the Bee Journal regularly, and whose subscriptions are fully paid up.

In case you cannot secure the new subscribers, we will mail one of these Queens for 75 cts., or 3 or more at 70 cts. each; or the Bee Journal one year and a Queen for $1.50. We expect to be able to send them almost by return mail.

(Please do not get these offers mixed up with our Red Clover Queen offers on another page.)

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

RIDER AGENTS WANTED
One in each town to ride and exhibit a sample 1902 Bicycle.

1902 Models, $9 to $15
'01 & '00 Models, high grade, $7 to $11

500 Second-hand Wheels
all makes and models, good as new, $3 to $8. Great *Factory Clearing Sale* at half factory cost. We ship *to anyone* on approval and ten days trial without a cent in advance.

EARN A BICYCLE distributing 1000 catalogues for us. *Write at once* for bargain list and our wonderful *special offer* to agents. Tires, equipment, sundries, all kinds, half regular prices.

MEAD CYCLE CO. Dept. 357 N CHICAGO, ILL.

1902—Bee-Keepers' Supplies!
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Our Choice for honey-gatherers is a cross between the Italian and Carniolan. A limited number of Nuclei and and full colonies for sale. Healthy, vigorous, and excellent workers. Address.
20A4t E. S. ROE, CLARISSA, TODD CO., MINN.

$5 TO START YOU IN BUSINESS
We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.
DRAPER PUBLISHING CO., Chicago, Ills.

3-Frame Nuclei For Sale.

We have arranged with a bee-keeper located in Kankakee Co., Ill., (within 12 miles of Kankakee), to fill orders for Nuclei of bees. All are to be first-class, and most of the bees show Italian markings. The queens in the Nuclei will be Italian, of this year's rearing.

The Nuclei are 3-frame Langstroth, in light shipping-boxes. Prices: 1 for $3.00; 5 or more at $2.75 each.

All are f.o.b. shipping-point, and will be sent by express, a postal card notice being mailed to each purchaser a day or two before shipping the bees.

GEORGE W. YORK & CO.,
144 & 146 Erie St., - CHICAGO, ILL.

was one queenless colony. I never have had a bad loss in winter but once (30 percent), and that was caused by late feeding of sugar syrup. To-day my bees average six frames of brood, and but few days that they could get out for pollen. J. C. STEWART.
Nodaway Co., Mo., May 3.

Swarms All Around.

There are swarms of bees in every direction all over the valley. One boy across the street has picked up 15 swarms the past week. Mr. Sutton has picked up 6 within 10 days. My youngest boy, 12 years old, went down First street two miles, on Saturday, and came home with one swarm in a box and one in a grain-sack. Three swarms went over my house today. DR. E. GALLUP.
Orange Co., Calif., April 30.

Pickled Brood—Nature and Character.

1. Has pickled brood absolutely no perceptible odor?

2. Will there be absolutely no ropy matter adhere to a toothpick when withdrawn from a dead larva having had the disease known as pickled brood?

3. Will a comb that has been rotten with foul brood during June become filled with healthy larvæ afterward? Or will a foul-brood cell produce healthy larvæ at times and diseased ones at other times?

R. C. HUGENTOBLER.

[1. Pickled brood has no odor like foul brood, nor has it a foul smell—in fact, no smell at all, as a general thing. If any odor is present at all it is slightly acid, or sour, and hence the name, pickled brood. In the advanced stages there will be a white mold over the surface of the comb; and this, in fact, is the best evidence that it is pickled brood.

2. Pickled brood is slightly ropy at times, but it never draws or ropes out more than an eighth of an inch, and, unlike foul brood, does not have a stringy character.

3. Cells that have contained foul brood may be cleaned out by the bees, and afterward healthy brood be reared in them; but the probabilities are that those same cells containing the spores of the disease will again give the disease to our healthy larvæ. Yes, cells that have been foul-broody at one time may be apparently healthy at another.—ED.]
—Gleanings in Bee-Culture.

Robbing—An Unusual Occurrence.

I had a case of robbing after extracting this week. I covered the hive being robbed with a cloth. After awhile bees belonging to that hive and the robbing bees united and clustered on the cloth. In the course of two hours the cluster dispersed and entered a weak nucleus containing a laying, clipped queen. The bees balled the queen for awhile, but finally released her and settled to work like a regular swarm, and are doing well. What will bees do next?—J. F. M., in Australasian Bee-Keeper.

Giving Cellared Bees a Flight.

One of the things fully settled long ago was that it is a bad thing to put bees out of cellar for a flight and then return them. Having tasted the pleasure of the free air they would not again be content to be imprisoned. Now, Mr. Editor, you've gone and unsettled the whole business again. Please tell us minutely as to the final result. Also tell us when you took out, returned, and took out for good. There have been times when I felt I'd like to give the bees a flight, and then return them to the cellar; but I had too strong respect for traditions.—[I think we have proven, to our own satisfaction at least,

Headquarters
—FOR—
Beekeepers Supplies
Root's Goods at Root's Factory Prices

Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand.
The freights from Cincinnati are the lowest.
Prompt service is what I practice. Satisfaction guaranteed.
Catalog mailed free—send for same.
The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.
You will save money by buying from me.

Orders taken for Queens—GOLDEN ITALIANS, RED CLOVER QUEENS, and CARNIOLANS. For prices I refer you to my catalog.

C. H. W. WEBER,
2146-2148 Central Ave., CINCINNATI, OHIO.
Successor to Chas. F. Muth & Son and A. Muth.
Please mention Bee Journal when writing

PAGE

IF YOU'RE AFRAID
of a bull, just put a PAGE FENCE between you and him, then you'll be perfectly safe.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
Please mention Bee Journal when writing

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles: none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st
Send for circular.

JOHN M. DAVIS,
14A26t SPRING HILL, TENN.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
144 & 146 Erie Street. CHICAGO, ILL.

COMB FOUNDATION ADVANCED 3 CENTS A POUND.

Owing to the increased price of beeswax, until further notice, dealers handling the A. I. Root Company's goods are compelled to raise the price of Comb Foundation 3 cents per pound above the prices found in their price-lists and catalogs. Please take notice.—Adv.

that the old idea that indoor-wintered bees should not be given a flight on some warm day in midwinter, is not good practice for Medina. In a normal state of health bees are compelled to void their excreta at certain regular intervals. We know that they do retain them during the winter; and we know that, just as soon as they are set out, the first thing they do is to spot everything in the neighborhood. This goes to show that Nature has been pent up for a long time, and seeks relief. To give the bees a cleansing flight during winter is not only rational but humane. We manage to keep our bees quiet till about the latter part of March. Then we set them out and let them have a cleansing flight, and put them back again, and then they are perfectly contented—no doubt about that.—EDITOR.]—Stray Straw in Gleanings in Bee-Culture.

Stimulative Feeding.

I have been, and am still, experimenting with stimulating food for bees, but I am already satisfied that here, at least, feeding in the spring is done at a loss. Cane-sugar syrup has to be "inverted" by the bees, and that process calls for an expenditure of vitality that old bees, after a winter's confinement, can ill y meet. Under normal conditions—during the natural flow of nectar—there are an abundance of young bees to do such work, and it is believed that they do much, if not the greater part, of it. But in the early spring, when stimulative feeding must be done if to be of any use, there are but very few young bees, and so the labor falls upon the old ones. If we could afford to feed honey, or honey and water, at such times, would not such evils be avoided? it may be asked. Not entirely. I can not discover that colonies stimulated with honey and water are in one whit better condition for the harvest than are colonies left entirely alone, but having plenty of honey (and pollen) left from their winter supply. On the contrary, even with such skill as I have acquired in the past 20 and odd years, spring-stimulated colonies are more often behind the others than ahead of them. Other things being equal, I believe bees winter better when they have a super-

—ITALIAN—

Bees and Queens!

Having been 28 years rearing Queens for the trade, on the best known plans, will continue to rear the best during 1902.

PRICES:

1 Untested Queen	$1.00
1 Tested Queen	1.35
1 Select Tested Queen	1.50
1 Breeder	2.50
1-Comb Nucleus, no queen	1.40

Write for catalog, giving prices of Comb Foundation and prices of Queens by half doz. and doz. lots.

J. L. STRONG, Clarinda, Page Co., Iowa.

19Dtf Please mention the Bee Journal.

Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

O. H. HYATT,

13Atf SHENANDOAH, Page Co., IOWA.

BOYS WE WANT WORKERS Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

Please mention Bee Journal when writing

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

33Atf Please mention the Bee Journal.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.

7A26t Please mention Bee Journal when writing.

We are the Largest Manufacturers of Bee-Keepers' Supplies in the Northwest

Send for catalog.

Minneapolis, Minn.

We have the Best Goods, Lowest Prices, and Best Shipping Facilities.

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30 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 30 cents a pound—CASH—for best yellow, upon its receipt, or 32 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Please Mention the Bee Journal when writing Advertisers *****

abundance of stores than they do if they have barely enough to carry them through.

It may not be considered as economical management to give colonies much more honey for winter than will suffice them till fruit-bloom. Perhaps it is not in some places, but it certainly is the best plan here, and colonies so supplied are ready for the supers first, and produce as fine a grade of white comb honey as can be desired. The dark honey, which may be in the combs below, never seems to be carried into the supers, so that feature is no bugbear.—ARTHUR C. MILLER, in the American Bee-Keeper.

Swarms With Clipped Queens.

G. M. Doolittle directs, in Gleanings in Bee-Culture, to let the queen when found run up into a cage, then let 20 to 50 of the bees enter the cage with her as they rush out of the hive, and then continues:

"As soon as you have secured the queen, lay the cage down in front of the hive, when you will move the old hive back, and put in its place the one which the swarm is to occupy, when the cage with the queen is to be laid near the entrance. Place the old hive where you wish it to stand, or move it up beside the new one at right angles, *a la* Heddon, as you prefer. Have, in a convenient place, two sheets, one of which is to be placed on each of the hives on either side nearest the one now awaiting the swarm, so that they can be spread over them should the swarm attempt to enter these hives upon returning, which they very rarely will do if only one swarm is in the air at once, and if the caged queen and the bees with her is left at the entrance of the new hive. When about two-thirds of the bees have returned and entered the new hive, pull the stopper out from the cage, which liberates the queen, when all run into the hive, the whole swarm will sometimes take wing again, and this is the reason that we wait about giving her her liberty till at least two-thirds are settled in the hive. If several swarms come out together, more sheets are needed, so that, if more than the right proportion of bees draw toward one of the new hives placed on the old stands, a sheet can be thrown over for a little until the bees are drawing about alike to all."

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

BINGHAM'S PATENT 24 years the best. Send for Circular. **Smokers**

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Does blood tell in other stock? Give your bees a chance. Stock used for breeding the queens offered—not from a sport, but my pick out of an apiary giving last season an average yield as follows:

Honey-Gathering.

102 lbs. extracted and 68 lbs. comb honey per colony besides increase and stores for winter.

Quality of Comb-Honey Produced.

"Man! It would dazzle you."—Wm. Envoy, Ontario Government Inspector of Apiaries.

Wintering Qualities.

Up to the present (January 30) I never found these bees to show the least indication of unrest—always perfectly quiet. They are wintering perfectly.—Frank T. Adams, Brantford, Canada.

General Commendation.

Out of those queens you sent me I have produced the best race or strain of bees I ever owned. Remember that is saying a lot, as I have tried every breed imported in this country. The bees winter better, build up, and stand cold chilly winds in spring better, and are more suitable than any bees I ever owned. For the season they gave me about double the honey the pure Italians did, and more increase. Glad you are going into the queen-business, and are going to join the ranks again. We are much in want of a few men like you. C. W. Post, Ex-president Ontario Bee-keepers' Association (owns 365 colonies).

S. T. Pettit, Canada's most successful comb-honey producer and bee-keeper, says: "The blood in my apiary is largely the progeny of queens sent by you, and they are grand bees."

Prices of Queens.

They are duly free to the United States. Tested, $2.00 each; $10.00 for 6; $18.00 per dozen. Untested until July 1, $1.25 each; $7.00 for 6; or $12.00 per dozen. Same after July 1st, $1.00 each; $5.50 for 6; or $10.00 per dozen. Larger quantities, prices on application. Postage stamps taken for fractions of a dollar. To be fair to every one, no selected tested queens are offered. Every one has the same chance. The above queens are bred from a careful selection of Italians and Carniolans. Pure Italian and Carniolan queens same price. Price of full colonies on application. Orders booked as received, and filled as quickly as possible. Order early.

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STOCK which cannot be EXCELLED, bred under the SUPERSEDING CONDITION of the colony, from SELECTED MOTHERS.

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The so highly recommended CARNIOLANS; Untested, $1.00 each; Tested, $1.25.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, May 8.—The trade in honey of all kinds is light, especially is this true of comb, the little trade that exists is for the best grades. Basswood ranges from 14@15c; that having more or less basswood, willow or other white nectar, 13c; off grades of white, 10@12c; amber, 8@9c. Extracted, white, 5½@6c; amber, 5@5½c; some lots of new extracted offered, but no sales have been made. Beeswax scarce at 32c.

R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5½@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.

THE FRED W. MUTH Co.

ALBANY, N.Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6½c. Beeswax, good demand, 30@31c.

H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c; Florida honey, in barrels, 6@6½c. BLAKE, SCOTT & LEE.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

CINCINNATI, May 8.—As the warm weather set in, the demand for comb honey is as good as over. There are no settled prices; for whatever is left, prices are made to force sales. Extracted honey is in fair demand and finds steady sales. Amber is sold in barrel lots for 5@5½c; water-white alfalfa, sells from 6@6½c, and white clover brings from 6½@7c. Beeswax scarce and brings 30@31c. C. H. W. WEBER.

NEW YORK, Apr. 7.—Comb honey, last year's crop, practically cleaned up, but as we wrote a little while ago we had received new crop from Cuba, and are now receiving new crop from the South. Demand is fair at 14c for fancy white, 13c for No. 1, 12c for No. 2, and 10@11c for amber.

Extracted: The market is decidedly dull. Very little demand, with large stocks on hand, some of which no doubt will have to be carried over, and indications point to a further decline in prices. We quote: White, 6c; light amber, 5½c; amber, 5c; Southern, 52½@58c per gallon, according to quality. Even these prices are shaded in car lots. Beeswax, scarce and firm at 29@30c. HILDRETH & SEGELKEN.

SAN FRANCISCO, May 7.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

The market presents an easy tone, but there are no reductions in quotations. Holders of last crop honey are desirous of effecting a clean-up, and buyers are operating in same only to cover most immediate needs. The new crop will soon be on market, and whether it proves large or small, the fact of it being near at hand is unfavorably affecting the situation for spot stocks.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.

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and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.
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[Continued from page 324.]

so I turned back lingering eyes, thinking that *perhaps* it might be many a year (and possibly never) before I should see the remarkable sight again.

GROWING ALFALFA.

To me, one of the most interesting developments throughout the arid regions of the West, was the growing of alfalfa. Almost no other hay will grow in those hot irrigated districts, and yet this thrives wonderfully. A hot, dry climate and moist roots give us a fooder that, for fattening cattle, and making them grow *sleek and handsome*, beats anything else I ever saw. For work-horses it is not quite the equal of timothy or oats; but as nothing else is to be had, except at considerable expense, farm-horses are able to do a big day's work on it, so I was told.

When Mr. Chambers and I were driving by one of his apiaries we came across a field of alfalfa that had reached its perfection of growth. It was in the height of bloom, and the beautiful violet blossoms, and the hum of the bees, made a combination alike pleasant to sight and hearing. I attempted to take a photo of it, but the result was very disappointing. However, I will show it to you as it is. If you were standing out in the field the tips would reach very nearly up to your chest; for alfalfa grows in Arizona, especially in that section, as it does nowhere else.

But one of the novelties to me was the mode of harvesting this crop. It is cut with mowers as we cut hay in the East; but instead of being put into barns it is always put up outdoors in stacks, giant in size as compared with the little mounds of hay in the rain-belt. Some of these great masses of alfalfa hay, I should judge, were 60 feet long and 25 wide. Instead of pitching the hay from a wagon with a pitchfork on to the stack in the good old-fashioned way, it is carried up by a simple piece of mechanism.

The climate in Arizona is so dry and warm, and there is so little rainfall, barns are not needed. (This is true of all the alfalfa-growing regions in the West that I visited.) It is, therefore, not necessary, or not so much so, to make the stack shed water as with us in the East. The alfalfa is piled up until it reaches the height of 15 or 20 feet, and then is left to stand till used. The hay, when stacked, is of a beautiful light-green color, and remains so for a year or more, or until it is used, except the portion that is exposed to the direct rays of the sun, which bleaches it somewhat. Stacks such as we have in the East would be altogether too small; and, besides, the hay would be bleached too much. These large mounds economize room, and at the same time keep the hay in much better condition for stock when it is needed.

Advance in Prices of Foundation...

We quote an advance of THREE CENTS PER POUND—WHOLESALE AND RETAIL—in Comb Foundation.

We are much in need of Beeswax, and pay the HIGHEST PRICES. Send us all you have to spare, either for cash or trade.

Chas. Dadant & Son,
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The best comb-honey hive on the market may be obtained of The A. I. Root Co., of Medina, Ohio; at any of their branch houses, and many of their local and jobbing agencies. Send to the address nearest you, and save freight, and get quick delivery.

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Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.
THE A. I. ROOT COMPANY, Medina, Ohio.
GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market. J. B. MASON,
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.

M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.

THE A. I. ROOT CO.,
MEDINA, OHIO, U.S.A.

GEORGE W. YORK & CO., 144 & 146 Erie Street, CHICAGO, ILL.,
are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MAY 29, 1902.

FORTY-SECOND YEAR
No. 22.

MAY 31 1902
AGRICULTURE

WEEKLY

APIARY OF CHAS. SCHWEINHAGEN, OF HENRY CO., OHIO.
(See page 340.)

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We have been working together on this catalogue for thirty years. We consider this number to be as near the ideal Buyer's Guide as the world has ever seen. We have done our best and our assistants have done their utmost to tell the TRUTH about everything listed herein
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Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get grand bee-book for a very little money or work.

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FOR 1902 FREE!

Long-Tongue Variety—Warranted Purely Mated

We have arranged with the queen-breeder who furnished Long-Tongue Red Clover Queen for us during the season of 1901, to fill our orders this season. Although fully 95 percent of the untested queens he sent out were purely mated, this season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most exeellent reports from the queens we supplied last season. And this year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scareely requiring veil or smoke.

Orders for these fine, "long-reach" Warranted Queens will be filled in rotation—"first come first served"—beginning as early in June as possible. It is expeeted that orders can be filled quite promptly (even better than the past season), as a much larger number of queen-rearing nuelei will be run. (But never remove the old queen from the colony until you have reeeived the new one, no matter from whom you order a queen).

All Queens will be guaranteed to arrive in good condition, and will be clipped, unless otherwise ordered.

A Warranted Queen for Sending us only TWO NEW YEARLY SUBSCRIBERS.

In order that every one of our subscribers who wants one of these Warranted Queens this season can easily earn it, we will book your order as follows:

No. 1.—For sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00, we will mail you ONE of these queens free.

No. 2.—Or, for sending us *one new* subscription at $1.00, and 30 cents more ($1.30), we will mail you a queen, and the Bee Journal for one year to the new subscriber.

No. 3.—Or, send us $1.60 and we will send to YOU the Bee Journal for one year, and also a queen.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO.,
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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., MAY 29, 1902. No. 22.

Editorial.

The Denver Convention.—Don't decide on the route to take east of Denver until you see the announcement we expect to make soon in these columns. We think we are going to be able to tell you the cheapest as well as the quickest way to go, especially for all who are going east of Omaha. So please wait a bit until you have seen our announcement.

The Illinois Food Commissioner, Hon. A. H. Jones, has just recently sent out his Second Annual Report. It is a pamphlet of 260 pages, and can be had by addressing Mr. Jones at 1623 Manhattan Building, 315 Dearborn St., Chicago, Ill. The matter of greatest interest to bee-keepers is the part of the report prepared by Prof. E. N. Eaton, the State Analyst. In this issue we begin the republication of it, and will complete it next week. It is interesting reading, we think. Prof. Eaton surely has a desire to help the producers of pure honey, as well as those who put out pure goods in any other line.

Sealed vs. Porous Covers.—A subscriber says that in the catalog of the A. I. Root Co., the advice is given to use a burlap covering with chaff for outdoor wintering, while in Gleanings in Bee-Culture the editor says enameled quilts or sealed covers are better; and he wants to know whether the catalog or Gleanings is the better authority. Both may in general be considered good authority, but in the present case one or the other must have the preference. Possibly the obliging editor of Gleanings may offer some middle ground so that both may be followed.

Honey in Old Oil-Cans.—We have recently had some experience with some Western honey that was put into oil-cans. It makes us feel like publishing the names of the bee-keepers who put it up. They deserve just such notoriety as that. We shipped some of this honey to a customer in Massachusetts, and here is his report on it:

MY DEAR MR. YORK:—The honey arrived in a reasonably short time, and in good shape. I opened one lot, and had soon filled jars with that from six cans. I liked the honey the more I ate of it, and was more than pleased with it, declaring that I should sell no other as long as I could get that. Last Saturday I went to bottle the other lot of honey. The first can that I opened I of course tasted. Ugh, but what a taste! I threw aside the knife, wondering how it happened to get near the lamp or the oil-can. I tried the honey with a spoon, and I got the same taste of oil. I washed the spoon thoroughly, hoping still that the bad taste was not in the honey itself. But no amount of washing did any good. That can of honey and its mate, also the cans from another case, are contaminated with some kind of vile, oily taste. Other people may be able to eat the honey, and it is possible that a few may call it good—one can never account for tastes—but the honey is spoiled for me.

It seems very unlikely that you could know the condition of these two cases, though you may possibly have known of other cases which had thus been injured. I suppose that the producer of the honey made use of second-hand cans which had had oil in them, and failed to get them clean. It is surely a fearful mistake to put good honey into such cans. In my own case, I hesitate to allow any of this contaminated honey to go out to my customers for fear that it may do me untold injury. At present I hold the reputation of putting up the best honey that is found in the markets about here. Where will the reputation be when my customers' tongues meet that oily flavor?

Except for the two cases of the second lot of honey it was the equal of the first lot.

I should like to hear from you in regard to the matter. Perhaps there is some way in which I can eradicate that evil flavor. At the worst, you can look over your lot of honey and see that no more oily cans go out. And you can put some thunder into the American Bee Journal against the folly of using oil-cans for honey.

I say again that the uncontaminated honey is fine; that I never ate extracted honey which so pleased me.

Yours very truly,

——— ———.

No, we don't know how to remove kerosene-oily taste from honey once it has become tainted with it.

But we can't understand how any bee-keeper can be so short-sighted as to use second-hand oil-cans in which to put honey. He should know that only one sale of such stuff can be made in the same place. We are out something like $5.00 on our deal in freight charges alone. We have heard that the school of experience is very valuable, but the tuition rates are high. Yea, verily.

We hope that no reader of the American Bee Journal will be such a scamp as to put honey into oil-cans, and then mix it in among a lot of good honey in good cans, and thus work it off.

Improvement of Stock is a subject that has been so much discussed of late that it is likely some may think it should have a rest. If it were a matter for the consideration of a few leaders to whom the mass are looking for improvement, there might be no sufficient excuse for this present word. But so long as *every* bee-keeper can do something himself for the improvement of his stock aside from trying to get better stock from outside, and so long as the probability is that not one in ten, if indeed one in a hundred, is doing anything in the line of improvement, there is abundant excuse for insisting upon attention to the subject, even if nothing can be said that has not already been well said. To every beginner it should be said, "If you have only two colonies, you can do something—perhaps much—toward improvement of your stock."

For the chance is very small that the two colonies are exactly alike. If, with equal opportunities, one of them gives a larger surplus than the other, there will be a gain to have all your increase from the better colony. Left to themselves, the probability is that if you do not have the same amount of increase from each, the larger increase will be from the poorer colony, because it is likely to be the case that the colony most given to swarming is the one least given to storing. It is not a hard thing to reverse the case, and indeed to go so far that you will have all the increase from the better colony. Give the better colony brood from the poorer, so as to make it so strong as to swarm first. Then when it swarms, set the swarm in its place, putting the old colony in place of the poor one, and putting the poor one in a new place. The field-bees that leave the poorer colony for the next day or two will all go back from the field to their old location, and a week or so later another swarm will issue with a queen of the better stock, while the poor colony will be so weakened that it will not be likely to swarm till later, if at all.

It is possible that the beginner may think that it is not worth while to pay attention to the matter until the number of colonies is considerable. Exactly while the number is small is the time to give the matter attention, for with only two or three colonies it is less trouble than with a hundred, and the little pains taken now will tell upon the whole hundred when they come. And if year after year constant care be taken to breed from the best, the difference made in the total income will be no slight matter. Even if your colonies are numbered by the score or hundred, if you have heretofore given no attention to breeding from the best, begin now.

Tiering Up Supers of Sections is a thing that puzzles beginners, and unfortunately the most experienced must do more or less guessing about it. Suppose the first super to be given about ten days before the full flow, the question is, What rule shall guide as to giving additional room? No definite rule can be given, but some general principles may be given to help in the guessing.

If there is too much delay in giving room,

the crowding may mean a loss in storing, and what may be in many a case still worse, it may bring on swarming. If too much room is given—or what is the same thing in practice, if room is given too rapidly—there is waste of heat in keeping warm the unnecessary room, and there is danger of having a lot of sections partly filled or filled and not completed.

On the whole, it is perhaps better to err on the side of giving too much rather than too little room. Only one super should be given at first, and usually a second may be given when the first is half filled. If the colony is weak, or if the flow is such that the work goes very slowly, it may be better to give the second super not till the first is more nearly filled. On the other hand, if the colony is strong, the flow heavy, and there is every expectation that a second super will be filled, it may be given before the first is half filled; in some cases when there is only a slight beginning made in the first. For if there are bees enough to fill promptly the two supers, they may be the better for the room.

When there is apparent waning of the flow, then one must be more chary about giving room. When the close of the harvest comes, whether that close be two weeks or two months after the beginning, it is better that there be a little crowding rather than too much room. The chief reason for this lies in the fact that when the bees have too much super-room they are slow about sealing up the last cells of a section.

As already hinted, it is a case of guessing, at best, because it can never be told in advance just what the flow will be.

Statistics of the Honey Crop seem hard to get, and even when they seem to be reliable it is hard to compare one region with another, because when it is a good season in one part it may be poor in another. The following figures are given in Gleanings in Bee-Culture:

Texas produces 18 pounds of honey per square mile, according to the census report for 1899; California 31 pounds, according to Rambler's estimate for 1901; Cuba 114 pounds, according to exports for 1901; and by the same authority, Jamaica 358 pounds.

Tiering Under or Over.—In tiering up supers of sections on the hives there is not entire uniformity of practice. There are some reasons why each added super should be put under those already given, and some reasons why they should be put over. If they are put under, the bees will be more prompt about beginning work in them, and there is less danger that sections will be darkened by being on too long if they are some distance above the brood-nest than if they are directly over it. If the additional supers be placed over, the filled supers under them will be more promptly finished, and there will be a smaller number of unfinished sections at the close of the harvest.

Perhaps the best plan is that followed by many of the veterans, to put each additional super under if there is a fair degree of certainty that it will be filled, and when it is a matter of doubt to put it over.

Weekly Budget.

Mr. Edwin Bevins and Apiary, of Decatur Co., Iowa, are shown in the illustration herewith. The hives had just had the winter-cases set up around them when the photograph was taken.

Mr. Bevins sent us, several months ago, some rhythmical stanzas that were written before the great Chicago Fire, in 1871, when he lived within about a block of where our office is now located on Erie Street. The lines were addressed to the woman whom he afterward married, being written when Mr. Bevins supposed he was on his death-bed. He did not send them to us for publication, but we think he will not object to seeing them in print. He did not place a title above the stanzas, but we have taken the liberty to name it—

APIARY OF EDWIN BEVINS, DECATUR CO., IOWA.

LIFE'S FAREWELL.

My sands of life are flowing fast,
The end of earth seems nigh,
But words of welcome, low and sweet,
From a distant church-yard fly—
A gift of holy cheer to bring
To loved one near to die.

Those words of welcome, low and sweet,
Withheld from me so long,
Come to me now mine ear to soothe,
With cadences of song;
Those cadences shall go with me
E'en to the gates of doom,
And be prolonged when thee I greet
Beyond the dreaded tomb.

There shall our souls united sing
To Him who saves from sin,
Glad that His love has bought for us
The right to enter in;
And may the souls assembled 'round
Join to enhance seraphic sound.

Through tribulation great is reached
The rest for which we sigh;
Through agony of soul is wrought
Its fitness for the sky;
And they who wear a crown of gold
A crown of thorns must try.

Edwin Bevins.

Close Saturdays at 1 p.m.—Our customers and friends will kindly remember that beginning with July 1, for three months we will close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open a month later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

Chas. Schweinhagen and Apiary are shown on the front page of this issue. When sending us the photograph, Mr. S. wrote thus:

I send a picture of my apiary and myself. It is hard to get a good picture of the apiary, for I have too many shade-trees in the yard.

By looking at the picture people may think I am a "darky," and the only darky bee-keeper in the State of Ohio. But I am not a darky. I am standing under a little cherry-tree, with an umbrella placed over my head in the tree to keep the sun out of my face.

Looking at the picture you look to the north. The hives all face to the south, but a few at the left in the picture are facing the east. All hives facing the south are in sheds, with the back of the sheds open during the summer. By looking closely you will see three rows of hives with a shed over each row, with the back of the shed open, which I close up in the fall to keep the cold winds off. I also put clover chaff back of and between the hives, and wheat chaff in the upper story. I have never had a great loss by packing this way.

Bees in this locality are wintered on the summer stands. I put 110 colonies into winter quarters last fall, and have wintered 105, which are in good condition at present. I use the Hoffman frame, and make my own hives, with loose bottom-boards.

I had 6000 pounds of honey last year, comb and extracted, as I run for both.

The main honey crop in this locality is from alsike and basswood, no buckwheat being raised to amount to anything.

Chas. Schweinhagen.

Mr. B. S. K. Bennett, of Los Angeles Co., Calif., referring to the Denver convention to be held in September, wrote us May 6:

"I believe we will bring a big part of California bee-keepers with us."

Now, look here, Mr. Bennett, you'd better notify those Denver people to make ample preparations if you're going to swarm on them with "a big part of California bee-keepers" next September. They may not be able to take good care of "late swarms," without having due notice.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 326.)

SECURING A FOUL-BROOD LAW FOR ILLINOIS.

"What can we do as an association towards securing a foul-brood law and inspector for the State of Illinois?"

Dr. Miller—I should think that a resolution making a request might have a little influence, possibly as much as anything that we could do; and then by privately making application urging the matter, the legislators might do something. As an association, I think all we could do would be to pass a resolution asking that such action be taken.

Pres. York—Is there to be a session of the legislature this winter?

Dr. Miller—No, there is not.

Pres. York—Then there is no use of discussing this question now—if there is to be no session this winter.

Mr. Dadant—In regard to this matter of getting the legislature interested in bee-culture, I would say that I was intimately acquainted with J. M. Hambaugh, who was one of the State representatives at one time, and I took advantage of it to urge him to help the bee-keepers along. I had experience in what was required in order to succeed in getting a law passed in which the general public has no particular interest, and yet no decided opposition. It must have the support and be helped and sustained by those who want to see it passed. Mr. Hambaugh was a nice man (he is yet), and he did get an appropriation of $500 for the bee-keepers for two years, and, of course, after that it was dropped. He had me go four or five times to Springfield, to appear before their committee, to state what I knew in the interest of bee-culture, and asked me to write to the representative from our district, and I wrote to a dozen of the representatives to help. Then we had one or two members in the Senate that worked for us, and by that means we got part of what we wanted done; but it takes a great deal of work on the part of the bee-keepers, and somebody there who will work and take the matter to heart and push it before the Committee in the house and in the Senate, and prevent opposition. Things that are in the interest of the agriculturist are not hard to pass, for generally the legislature wants to favor the farmer; they know he is behind the whole thing. There are no such questions at stake as when you touch the transportation matters; then they are ready to fight, if you touch the railroads. The farmer does not fight; he stays at home, and if he writes to his representatives he probably does not know how to spell very well, and he has to have some voice behind him before he can be heard; on the other hand, if once he is heard, they will not be likely to oppose him. What we need, and want, to get a law passed, is to get somebody well interested—then each and every one of us must influence all the men whom we are acquainted with in the legislature. Personally, I have no politics in me; I have never been able to follow politics, and I would have done nothing if it had not been that I was personally acquainted with the man who was a member of the legislature.

BEES STARVING IN WINTER.

"Is it possible for bees to starve in winter, with a few drops of honey in the center of the cluster?"

Mr. Hintz—Yes, I say it is possible, but it is very probable they will not starve as long as there is honey that they can get. They will not starve provided it is liquid; but if it is candied, of course they will.

Dr. Miller—I think the bees are very accommodating to one another—if there is any honey in the center of the cluster, they would pass it from one to another, and those in the center of the cluster would not keep it to themselves. I have some little doubts whether they might possibly starve with candied honey in the center, if they had first gotten out of the liquid part. There is one way in which there might be liquid honey there and yet not taken. I would like to know how many of you have ever had bees robbing, and had some comb honey laid out before them where they were robbed, and have them leave that comb honey.

A Member—Sealed comb, do you mean?

Dr. Miller—I mean sealed comb honey. There is just one way in which it may be that bees will not take it. If you will take a comb of honey and have it sealed over, and then move the combs apart in such a way that the bees will commence building again on that sealing, and fill in some more honey on top of that, they will never get through the capping that contains that inside honey; at least I never knew them to do it; I don't believe they will; they seem not to know enough to know they can go through the capping. I have seen that in a number of cases, and never have seen cases in which they knew enough to dig through.

Mr. Dadant—I think they could get it from the other side.

Dr. Miller—I suppose it must be that the other fellow on the other side is getting that. In that way they might have honey—liquid honey—in the middle of the cluster and starve. I don't understand French, Mr. Dadant, so there are some things I can't get at. He has been told that, in French, and he has got it!

(Continued next week.)

Report of the Utah Bee-Keepers' Convention.

The convention was called to order by Pres. E. S. Lovesy, and in the absence of Secretary J. B. Fagg, Assistant Secretary Belliston reported the preceedings.

The first general discussion was on the purchasing of supplies, the marketing of bee-products, and as to the advisability of Utah bee-keepers exhibiting their productions at the St. Louis World's Fair. These subjects were discussed by many of the members, and while many thought the reputation of Utah honey was pretty well known, the State would not lose anything by sending an exhibit to the Fair.

General management and the best method of protection, and the most successful way to enlighten the people as to the benefit to be derived from the general use of pure honey as food were considered. It was shown that people enjoy a higher degree of health by a moderate use of Nature's sweet—honey.

The next was a discussion as to the advisability of forming an exchange for the disposal of bee-products, and a letter was read from the Pacific Honey-Producers' Association. A committee was appointed to confer with them as to the best general method for forming a union of interest for the Northwestern States.

ELECTION OF OFFICERS.

President, E. S. Lovesy; 1st Vice-President, R. T. Rhees; 2d Vice-President, Andrew Nelson; Secretary and Treasurer, J. B. Fagg, of East Mill Creek; Assistant Secretary, Wilford Belliston.

COUNTY VICE-PRESIDENTS.

Salt Lake County, Geo. Wilding; Utah, Geo. Hone; Wasatch, J. A. Smith; Davis, J. F. Stevenson; Box Elder, J. Hansen; Weber, C. O. Folkman; Juab, Thos. Belliston; Cache, Henry Bullock; Morgan, T. R. G. Welch; Uintah, C. C. Bartlett; Emery, Chris. Otteson; Wayne, P. M. Grigg; Sevier, R. A. Lowe; Carbon, Ulrick Braynor; Washington, A. N. Winson; Tooele, B. Barrows; and Kane, W. F. C. McAllister.

As a rule, the presidents of county associations are the county vice-presidents of the State Association.

Secretary J. B. Fagg made a few remarks in regard to the industry in Salt Lake County. He said that in his locality the greater portion of the bees had died from the effects of the smelter-smoke.

Mr. Warren said he had come over 300 miles to attend this convention. He gave a very interesting account of the industry in Washington County, in the southwest corner of the State; they had a good honey-flow last year, and the indications for irrigation water and for fruit, honey, and other crops, were flattering for the present season. He said they had had a very good market for their honey from the adjacent mining camps.

George Wilding, an old pioneer bee-keeper of Salt Lake County, gave a very interesting sketch of the early bee-keepers of the State, at a time when bees were worth $50 a colony, and honey was worth 50 cents a pound.

Mr. Miller, of Cache County, and Thos. Neilson, of Sevier County, gave good reports of their respective counties; they also reported that the present honey-crop indications were flattering.

J. N. Elliott, an old Iowa bee-keeper, gave an interesting sketch of the industry in that State. He said the bee-prospects there were not very bright; that honey often sold for 20 cents or more a pound. He praised the Utah honey as being the finest in quality that he had seen. He thought we should exhibit at the St. Louis Fair.

Marketing Honey.

Very few bee-men are able to market their honey successfully, but many can produce it. There are certain qualifications necessary to be able to put it in shape to get the best results. It should be put in shape first to supply the local market, which is always the best; and, next, that it be in proper shape and condition to ship to any market.

All packages should be scrupulously clean and attractive. The packages should be uniform, and the contents exactly as represented. Under these circumstances the market will hunt the honey instead of the honey having to hunt the market, and command prices that will be remunerative.

Bee-men can be the best judges of the package, according to the locality and prospects in marketing conditions; they vary with localities. If you want the top price for your product see that it is in the very best shape and condition.

T. R. G. WELCH.

President's Address.

I take pleasure in greeting so many of you at this time. While we meet, and greet many new faces we still have many of the old true and tried friends with us. And while all of our bee-keepers, as a rule, are kind, generous and true in their sympathies for each other personally, many of them lack interest in a unity of purpose necessary to the building up of the bee-industry; while many express a hope and a willingness that the bee industry may be built up and become a grand success, they wait for others to do the building, and the great trouble has been that there have been too many in the waiting column.

We should form a co-operative exchange for the benefit of all concerned. In union is strength, and if we would succeed we should form a strong bond of union.

I have received a number of letters of late from several bee-keepers in different parts of the State favoring the adoption of an exchange for the general benefit of our bee-keepers, and we hope to see it pushed to a successful issue. A strong organization should be formed, and the best possible plan or method should be adopted for the purchase of supplies, and for the disposal of all bee-products. We find that organization for general protection is the order of the day among all orders and classes, and why should not bee-keepers? It needs but little argument to prove that when each is striving alone to push his product on the market, the result will be a demoralized market and low prices. Thus the best way to avoid these difficulties is to ship all products collectively to the market where it is required.

I have in view the publishing of a treatise in the interest of the industry as soon as our financial condition will allow us, on the general management, the protection of bees, etc.; and also as to the benefit to the health of the people in the general use of honey.

I find some very crude ideas exist in regard to honey, some believing that nearly all honey is adulterated, even the very purest and the best white alfalfa, which is said to be the peer of all honeys. Even this peerless honey, in its granulated condition, which is a general test of its purity, some claim is adulterated. These mistakes need correcting. We do not believe there is a bee-keeper in the State that is guilty of adulterating, and Utah honey has a name which it justly deserves, of being par excellence.

Shall Utah bee-keepers exhibit at the fairs? We cannot afford to miss the great World's Fair at St. Louis. Utah honey has carried off the honors on all occasions where it has been properly exhibited, and if we send a good exhibit to St. Louis we need have no fears for the result.

From present indications over the greater portion of the State the outlook for a good honey-flow is encouraging, and thus if the results of the season prove satisfactory it will be beneficial from every standpoint to put in a good exhibit at our own State Fair this fall.

Our bee-keepers should take pains to protect their bees from ants, wasps, and other bee-enemies, and also from disease. If there should be any trouble of this nature in any part of the State, steps should be taken to get the law enforced, and thus try to eradicate the disease.

E. S. LOVESY.

Contributed Articles.

No. 1.—Longevity of Bees—Rearing Short-Lived Ones.

BY DR. E. GALLUP.

WHEN I read in the report of the Chicago Convention Mr. Riker's account of longevity of bees, I felt like hurrahing for him. He has struck the right key. I have been watching the discussion about long tongues.

Allow me to tell how to rear short-lived queens, and short-lived workers, so that the merest novice can run an apiary for profit in two seasons, and never make a mistake. Understand that I have been "through the mill"—it is no guess-work or theory with me. Now we are ready to commence.

Take a small box, say 6 inches square, fit in some comb containing a few eggs and larvæ just hatched. Now get a small quantity of bees and place them in the box with the comb; place them in a dark room or cellar, and in about three days set them out and let them go to work, and if they succeed in rearing a queen you will have a short-lived one, and she will rear short-lived workers. Don't bother your head about whether your nucleus contains old workers or nurse-bees, it won't make so much difference only the fewer nurse-bees the nearer you come to starving the embryo queen.

I obtained my first Italian queen from W. W. Cary, of Massachusetts. Queens were then selling from $5 to $20 each, and I was going into a fortune at once (in theory), and it was "just as easy as rolling off a log." But in practice it was a failure. I did not sell any queens, but I was learning, all the same.

When I went to the first Cincinnati convention I roomed with Adam Grimm and we discussed the queen-breeding theory thoroughly, and when I bade him good-by, he said, "Gallup, next summer I will send you a queen that is a queen." And he did. She was one of the very best queens I ever owned—prolific, long-lived, and reared long-lived workers. She lived to be 6 years old. Those bees were extra honey-gatherers. When I got my first large hive, whose colony produced 600 pounds in 30 days, I hived a large prime swarm on the 10th of May from my Grimm stock. As soon as they commenced to build drone-comb I filled out the balance of the hive with ready-made worker-comb—48 combs, all on the ground floor, and the queen spread herself grandly.

I made other large hives containing 36 combs each. None of my large colonies cast a swarm the second season, so I thought I had a non-swarming hive. But the third season my large colonies all swarmed, some 8 to 10 days earlier than those in standard hives, because they had superseded and reared new queens to suit the capacity of the hive. Those swarms were so large when they came out that it took three standard hives, one on the other, to contain them. The queens all lived 3 or 4 years, and one lived 5 years, whereas many queens reared on the small nucleus plan die of old age the first season, and all are worthless the second season. Bees hived in cracker-boxes, nail-kegs and small boxes for a series of seasons soon get so they rear queens to suit the size or capacity of the hive or box.

Now allow me to tell how to rear long-lived queens and bees. My 14-year-old son takes quite an interest in bees, and he has made two 9-frame Langstroth hives all under the same roof, side by side, so that all can be turned into one hive. Now when all are full, and if the two queens do not fill to suit with brood, we will fill with hatching brood from other hives, so as to have an immense quantity of nursing bees, and bees of all ages. Now in a hive of that capacity, and filled in that manner, we expect to rear long-lived queens and long-lived workers, and we shall not be disappointed. I know positively, by actual experience, that the lifetime of the bees from queens reared under the best possible conditions is fully three times as long as those reared under the opposite extreme.

Now, Mr. Riker, let us shake, as you and I are both on the same side of the fence.

San Diego Co., Calif.

No. 7.—Bee-Keeping for Women.

How to Introduce a Queen Successfully.

BY EMMA M. WILSON.

THE introduce a queen successfully is not a very difficult feat for a veteran, but it is an entirely different thing with those who have had no experience whatever in that line, and scarcely know a queen from a worker. With them the introduction of a queen is an undertaking attended with a good deal of nervousness, and the success or failure of the venture means so much more to them than it does to one who has had years of experience.

I well remember the first queen I introduced all by my lone self. Dr. Miller was away from home, to be gone several days, and the very first day after he left a valuable imported queen arrived. How my heart sank. I sat down and looked at her, and just about made up my mind to leave her in the cage until he came home. Still I was afraid she might die if left in the cage so long, and I finally concluded she must be taken care of. But not a bee would I risk with her valuable ladyship. I had helped Dr. Miller introduce an imported queen that had come unexpectedly some time before, and I concluded to try the same plan.

I put a piece of wire-cloth on top of a strong colony, placed an empty hive on it, then went to two or three strong colonies, and selected several frames of sealed brood from which the bees were just hatching, and placed them in this empty hive, being very careful that not a single bee was left on them. I was afraid they might need water, so I soaked a cloth with water and put it in the hive. Lastly, with fear and trembling, I put in the queen (killing the attendants for fear of foul brood), and covered her up snug and tight so that not a single bee could get in, and left her to her fate.

I wanted so much to look for her the next morning to see if she was all right, but concluded to leave her until evening. When evening came I could wait no longer, so I opened up the hive, and was delighted to find her all right with quite a cluster of baby bees, and more hatching, so I concluded they would do to put on a stand by themselves, as the weather was warm, which I proceeded to do, taking the precaution to close the entrance so that only a few bees could get out at a time. By the time Dr. Miller got back there was quite a little colony.

Dr. Miller said it would have been better if I had left them on top of the other hive for four or five days. In this case I don't think it did any harm, as the weather was so warm. If it had turned around cool some of the brood might have chilled.

If I had a very valuable queen to introduce I would rather take the plan I have described than any other I know of, for it is perfectly safe.

In ordinary cases the introducing-cage is a boon, especially at the out-apiaries. You often want to remove a queen, or kill a worthless one, and you don't want the colony to go queenless until the next time you visit the apiary. All you have to do is to remove or kill your queen, fasten a queen in a Miller introducing-cage on one of the frames with a wire-nail pushed through the cage into the comb. By the time the bees have gnawed through the paper and eaten their way through the candy they are ready to accept the new queen without any trouble. That is, they very rarely make any trouble. Once in a great while you find the queen missing. Perhaps they gnaw their way through too quickly, and reach the queen before properly making her acquaintance. Sometimes, however, when a queen is not kindly received it is because there is something in the hive which the bees regard as a queen.

I remember one colony that I thought was hopelessly queenless. There were no eggs nor any unsealed brood in the colony, and I looked the frames over carefully and could find no young queen, so I gave them a queen in an introducing-cage, and the next time I looked she was gone. I gave them another, and she shared the same fate. Then I thought I would try them once more, and gave them another, taking care that everything was all right about the cage. When I opened the colony the next time I found that she also had disappeared. Then I concluded that they must have some sort of a worthless queen. I looked very carefully but could not find the least trace of one. Then I gave them a frame of young brood. In a day or two I looked again and they had not started any queen-cells. So I began my search for a queen again.

I went over the frames carefully several times and no queen could I find. Just as I was about to close up the hive I caught sight of a little black queen with one bad wing, not much if any bigger than a worker. That was what had been making all the trouble. I tell you, her head came off pretty quick, and the next queen was accepted all right.

If nectar is coming in freely, and robber-bees are not causing any trouble, and we know that a colony is queenless, all that we do is to drop a queen on a comb among the bees and she is generally accepted all right. In a case of this kind it is a little safer to introduce her in the evening.

McHenry Co., Ill.

Management for the Production of Comb Honey.

BY G. W. STEPHENSON.

IN writing on the production of comb honey I suppose the proper thing to do would be to begin in the fall, tell how to prepare the bees for winter and build them up in the spring ready for the honey-flow. But as that would take up too much valuable space I shall assume that they have come through the winter and early spring to the time of fruit-bloom, which occurs about the last of April or the fore part of May, in this locality. At this time each colony should be examined carefully, clip all queens that are not already clipped, and note especially the very weak and very strong colonies, for these are the ones with which we have to do at present.

I believe some bee-keepers advise taking brood from the medium-strong colonies to build up weaker ones. I prefer to go to the very strongest colonies. I have been thinking it is better to use up one or two strong colonies to build up several weak ones than to weaken the medium colonies—to make the weak ones only medium. Take one or two frames of hatching brood (be sure and have the bees just emerging from the cells), place these frames in the center of the brood-nest, and your colony is strengthened at once. As fast as the young bees emerge the queen will lay in the empty cells and the eggs will be right where they can be kept warm.

The queen will also extend the brood-nest on each side, as there are now plenty of young bees to take care of the brood. There is nothing like lots of young bees to encourage a weak colony. By continuing this method, always replacing the frames of brood taken from the strong colony with empty combs, we will soon have all the colonies in a flourishing condition and ready for the harvest.

We come now to the time of swarming and putting on the supers, but before we put on the supers I wish to call your attention to the one I have used for the last three or four years, which is arranged in this manner: It is what is known as the T super, the size to fit a 10-frame hive, and will hold twenty-eight 4¼x4¼ bee-way sections; but instead of putting in 28 sections I put in only 24, with a follower at each side, leaving a bee-space of about ½ inch between the inside of the super and follower. It is to the importance of this bee-space that I wish to call your attention. I find the bees will build out and finish the outside sections much quicker and better than without it; it also acts as a ventilator, giving the bees a chance to ripen up the honey very fast. There should also be a space of at least ⅜ inch between supers, and between the cover of the hive and super, for if we expect to have the sections of honey built out and sealed to the top and bottom we must have room for enough bees to cluster to keep up the heat. In such a super there is a living blanket of bees from ⅜ to ½ inch thick all over the top and around the sides, and they are bound to produce a first-class article.

Having the supers all ready with sections filled with full sheets of foundation, and a few bait-sections in the first ones put on, we are ready for the harvest; and as the honey begins to come in we are likely to have some swarms: but to prevent this as much as possible I raise up the hives on ½-inch blocks at each corner, and give plenty of super-room. But, do all we may, we will have some swarms, which I should manage in this way, (and this management is for a long, continuous honey-flow, and admits of very little increase):

I use a 10-frame hive. Provide a hive with 5 frames containing full sheets of foundation or empty combs, putting them all together in the center of the hive. When the first colony swarms set the old hive to one side, place the new one in its place and fill up with two frames of honey and three of brood from the old hive, being sure to destroy all queen-cells. Take the brood that will not emerge for four or five days, put on the super at once, and the bees will go right to work. Fill up the old hive with full sheets of foundation or empty combs; in from five to seven days shake

off most of the bees in front of the new hive, and use the old one for the next swarm, putting it on the stand of the next colony that swarms, leaving that hive at the side of the stand for seven days, then placing it on a stand of its own, beginning again with a new hive as with the first swarm. In this way we increase only one-third, and our colonies are almost as strong as if they had not swarmed.

By this method the strength of the colony increases from the day it is hived, instead of decreasing for three weeks before there are any young to take the place of the old ones that are wearing themselves out every day.

As soon as the first super is well started, raise it up and put an empty one underneath, and so continue, taking off the full ones as soon as finished. But at any time when the flow begins to slacken, place the empty super on top, which will in a great measure prevent having so many partly-filled sections, as the bees will usually finish the lower ones before going above, especially during a light honey-flow.

Cook Co., Ill.

Difference in Localities—A New Wintering Scheme.

BY F. GREINER.

AS favorable as the past winter was relative to wintering our beloved little bee, it may be noticed by the observing that location plays a most important part in wintering bees. From what has come under my observation during a period of more than 25 years, I am convinced that natural protection is of greater importance than double walls, chaff-packing, tarred-paper covering, and what other auxiliaries we may have, and employ, to give protection to bees. In an exposed place, where a dog couldn't keep his hair, the bees will *go*, no matter how well they are protected. Such a location will probably prove unsatisfactory even during the summer season.

We also know, however, that there are many sections where bees may be kept with profit if the wintering problem could be solved. A suitable cellar could be used in such a locality with advantage. However, I wish to bring out a scheme that, I believe, is practicable with the professional, and has certain advantages for such as are situated to put it in operation.

It seems singular that natural protection in our climate should be worth more than the skill of the professional, but it really does seem that way many a time. I have known of small after-swarms, which had built but little comb in one corner of a thin-wall soap-box, to come through the winter unharmed and built up and make good colonies ready for the harvest, simply on account of this natural protection. Sometimes the apiarist need not go very many miles from his own place to find the sheltered spot, where bees could be safely wintered.

There may exist a great difference as to wintering bees even in the different parts of the same yard. Mr. W. F. Marks says, for instance, the bees at one end of his home yard nearly always suffer badly, while those in the other part come through in good shape, usually. He attributes it to the exposure to the winds in that part of his yard, trees and buildings giving shelter to the others.

From what has been said it would seem, then, that we should winter our bees in one of the favorite spots, and that, indeed, is part of the scheme. The proposition is this: To stock up such a place—or more of them, if we can find them—with say 50 colonies of bees each. We need not even be very particular as to the kind of hives they are in. Box-hives, nail kegs and the like will answer as well as any. We allow our bees to swarm, and hive the young swarms in improved hives of some kind, preferably shallow brood-chambers. Very early and large swarms may even be "boxed," and thus give us a little surplus honey; but, on the whole, I would run the yard *for increase only*. It will take a lot of hives, of course; but swarms are just what I would want that first year. Small swarms are to be doubled up. One hundred young swarms could thus be obtained from the 50 old colonies. They should receive a large brood-chamber, in order to enable them to build up into large, populous colonies, and to store an abundance of honey for winter. It would not require a skillful hand to attend such a lot of bees. Any ordinary man, if not afriad of bees, could see to the hiving.

Every year this 50-colony apiary could be drawn on for 100 swarms, to be converted into comb honey the following season, when they would have to be moved to other quarters and run for all they are worth. They should be given small brood-chambers, and, after a while, they may be doubled down, and again doubled down, till finally we have little left but honey, combs and hives. The specialist will know how to do this, and will reap a bountiful harvest in honey and wax. The best and perfect combs may be saved, all inferior combs melted up and made into wax during the season.

This method would be a slow way of getting anything out of the original 50 colonies, but they have not cost much, and the income would be pretty certain. The profits from wax would be no small item. We are neglecting the production of wax by far too much. This method will give us at least a fair yield of this desirable article.

To do justice to the originator of the above ideas, I want to say they developed in the brains of our friend, Mr. E. H. Perry. Ontario Co., N. Y.

On Woman's Dress for Bee-Work.

BY MRS. F. S. A. SNYDER.

SEEING an article by Miss Wilson, on how women should dress for bee-work, I should like to say a few words, first on the subject of wearing woolen skirts, and second on gloves.

In advising woolen skirts we lose sight of the fact that the honey-bee has implements on the three little claws of its hind legs shaped like a hoe, a trowel and a rake, and these delicate little implements catch on the wool and cause no end of unnecessary annoyance to the bees. I know if I wore woolen skirts in the apiary the back, though "the apron covers the front," would be full of struggling, stinging little prisoners, caught on the fuzzy material. Nothing annoys me so much as to see somebody enter my apiary with a felt hat on. I always keep two or three straw hats and suggest an immediate change, with an extra veil.

Clean, starched clothes, and why not duck, short skirt with bloomers, no matter what color, so they are clean? I wear black cotton shirt-waists (because light colors fade and white soils so quickly), and clean cotton skirt. I rarely ever get a sting. I became so conceited about my method of handling bees that I rolled up my sleeves and went at a three-story hive with about 40,000 bees in it, and I got three or four stings. I reasoned it out and came to the conclusion that the arms and hands perspire more or less when warm, and the little bees in constant contact with the exquisite perfume from the flowers quickly discern that it is living flesh, and sting immediately.

So I tried this experiment:

I got an old pair of kid gloves, 3 or 4 buttons, and a size too large for me, so they will come well up on the wrist. Then I cut the finger-tips off to the second joint, and warmed beeswax and rubbed it well in, and then placed them in a warm oven so it would soak and permeate the gloves thoroughly. I have worn these gloves for three years, and rarely ever get a sting. They never sting the gloves, and I can wash my hands, as the wax protects the kid.

Yesterday I handled and looked over three 3-story hives, and thoroughly cleaned the bottom-boards, for I believe that strict attention to cleanliness prevents foul-brood, though I have never experienced a case here. Each of these hives contained, on an average, 40,000 bees. I extracted about 5 gallons of honey, besides hiving swarms. I never increase, but cut out all queen-cells and return a swarm to the hive from which it issued, on empty combs and comb foundation. I received only one sting during my stay in the yard.

The reason I cut off the finger-tips is, I cannot understand anybody handling the delicate little bees without being sensitive to every little creature that flutters on the hand; I should smash dozens, and could not work with despatch. Sonoma Co., Calif.

Honey and Beeswax—Considered by the Illinois Food Commission.

BY PROF. E. N. EATON, STATE ANALYST.

Recently a report has been quite widely circulated and credited which has affected, injuriously, the reputation and sale of honey. This report pretended to give:

First.—The appearance of honey when pure.
Second.—The extent of adulteration on the market.
Third.—A description of the manufacture of comb honey (carton) and prevalence of this product on the market.

Knowing the report to be unwarranted, the Chicago Bee-Keepers' Association, at one of their semi-annual meetings, asked me to give the facts in this connection to the public.

Extracted honey varies in color according to the flower upon which the bee feeds. Alfalfa and basswood honeys are nearly white, goldenrod and buckwheat dark; the latter sometimes almost black. The clovers, orange flower, etc., occupy an intermediate position as regards color of honey produced from them.

Honey-combs produced from such plants are as white or whiter than the honey enclosed. Pure honey is usually a viscid liquid, but may be entirely solidified. All honey granulates in time, and this is rather a badge of purity than impurity. Granulated honey is not, however, of necessity pure.

Adulterated honey has had a long and prosperous reign in Illinois, but the "Dynasty" is tottering on its throne. The National Bee-Keepers' Association commenced war on adulterated extracted honey in Chicago in 1898, and I, as the expert chemist, found over 50 percent of samples taken adulterated. However, owing to loose food laws, nothing could be done with parties arrested. The creation of the Illinois Food Commission, however, had a wholesome effect on the honey market, and but eight of 22 samples analyzed were found adulterated in the preliminary work of the commission.

Since that time 30 samples have been collected and examined, with a view to selecting adulterated or suspicious goods, and but six, or 20 percent, were found adulterated.

While the adulteration of extracted honey has not been wiped out (indeed, never will be so long as there is a profit in adulteration, and a chance to escape detection), yet the market is in a more satisfactory condition than it has ever been, as gladly testified to by bee-keepers, and emphasized by the result of our work.

Many years ago Dr. Wiley described, in pleasantry, a process of manufacturing comb honey. Since that time comb honey has striven in vain to live down the aspersions cast upon its character. No doubt they have been fostered by the manufacture and common use of artificial comb foundation, and also the re-using of old comb after extraction of honey by centrifuge. In the course of my analytical career I have examined many samples of comb honey, usually those suspected of adulteration, the last just before going to press, and I have never yet discovered a sample which was not, in my opinion, supported by the chemical evidence, made in whole or in part by the bee. Nor have I seen, in any literature on the subject, a record of such fabricated goods.

However, I have seen and have analyzed adulterated comb honey. I will refer to this later on in a portion of this article on honey adulteration. Before discussing that part of the subject it were well to define accurately the article as understood by me, and describe its properties.

A comprehensive definition of honey must include the saccharine liquid food secreted by the honey-bee, *Apis mellifera*, the bumble-bee, *Bombus pennsylvanicus*, or other hymenopterous insect. Wiley (1891) defines honey as the transformed nectar of flowers. Cook (1893) would modify this definition to conform to our more extensive knowledge of the food of bees and our limited knowledge of honey by defining honey as simply transformed nectar. This definition, to be sure, would include aphis or louse honey, but would not include honey obtained by feeding bees cane-sugar, etc., a form of honey sometimes met with and very difficult to distinguish from flower honey.

Several States forbid the selling of honey obtained by feeding bees cane-sugar, and in view of the fact that the flavor of honey is the one important property that gives it its individuality and establishes its reputation as a delicacy, which flavor is wholly obtained from flowers; and also considering that the composition of such honey is ofttimes so greatly changed as to destroy its character as honey, I believe it to be just to adopt the following definition for honey as a marketable commodity:

Commercial honey is the nectar of flowers, transformed, and stored in a comb by the honey-bee.

It is true that this definition will rule out some honeys admitted by the comprehensive definition previously given, but not to the disadvantage of the producer, the tradesman or the consumer.

As stated by Cook, honey-dew (aphis) is so unattractive in appearance and flavor as to be rarely found on the market. Honey produced by other insects than the honey-bee is not made in sufficient quantity to give it commercial standing. Honey produced by artificial feeding is an adulteration in fact, and, although concocted with the bee as an accomplice, is a fraud and a cheat. The physical properties of honey depend somewhat upon the variety of bee, but much more upon the food. As previously stated, the color depends wholly upon the plant visited, as also does the flavor, this flavor and color being in part due to pollen carried by the bee from blossom to hive, and intended as a food for young.

The viscosity of honey varies from a solid sugar to a limpid syrup. The amount of water present will depend somewhat upon the variety of bee producing the honey, the time of ripening and the length of time kept in the hive. All honey will "candy," and some, more particularly alfalfa, will "candy" in the comb, and on short notice sometimes. Usually honey "candies" evenly, and a honey half liquid and half solid is suspicious. Honey should not contain over 23 percent of water.

It is the custom of bee-keepers to set a sheet of comb foundation in the center of a honey-box, that the bees may build regular cells and fill out the corners of the comb. The comb foundation is embossed on both sides with the form of the cell-bases, and is made from beeswax. Other waxes, fats and paraffin have been tried, and found wanting. Even with this starter the cells are seldom, if ever, perfectly hexagonal, nor even level, and each section, like each leaf of the forest, possesses an individuality of its own. And the same is true, to a lesser extent, of the honey contained therein, as no two samples have exactly the same composition.

Chemically considered, honey is a water solution of invert sugar (sucro-dextrose and sucro-levulose). It also contains a small amount of sucrose (cane-sugar), mannite (a sugar) and dextrin (a gum). Still smaller quantities of formic acid (?) and other organic and mineral substances are invariably present.

Genuine honey always turns a ray of polarized light to the left from 0 to 25 degrees; gives a slightly increased rotation on inversion; usually contains but 2 or 3 percent of sucrose, rarely 7½ to 9 percent. The high percentage probably signifies unripened honey. Dextrin should be present in small amount only.

The statement is often made that honey normally contains glucose in greater or less proportion. Such is a mistake. Glucose, in a commercial sense, can not be incorporated in comb honey. Glucose, in a chemical sense, signifies a group of sugars having common characteristics, and includes almost two dozen varieties, the most common of which are dextrose and levulose. Honey, therefore, contains glucoses, but no "glucose." "Glucose" also contains glucoses, dextrose being common to both products.

The physiological process of converting nectar and sugar into honey is very little understood. The constitution of nectar can only be approximated, as it is obtainable in such very small quantity. Yet it certainly contains a much larger proportion of sucrose and dextrin than is found in honey. Watts affirms that the sugar is converted into glucose by a ferment in the honey. Cook, with more reason, thinks that the large compound racemose glands in the head and thorax of bees furnish the ferment which induces the change. In view of the fact that the inversion of cane-sugar is seldom complete, Mr. Doolittle thinks that the young bees work over the honey and more thoroughly digest it.

ADULTERATION OF HONEY.

In 1887 the United States Department of Agriculture caused an examination of honey to be made in various sections of the United States. It was found that the percentage of adulteration ranged as follows:

Seventy-six percent in Nebraska.
Eighteen percent in California.
Twenty-six percent in Kentucky.
Twelve percent in Massachusetts.
Thirty-four percent in New Orleans.
Fifty-eight percent in Pennsylvania.
Forty percent in Ohio.
Forty-eight percent in New York.

In calculating the percentage of adulteration all honey suspected of being adulterated with invert sugar, but not susceptible of positive proof, were classed as pure honey. It will be observed that this investigation, although extensive, was mainly conducted along coast lines. Nebraska is the only representative of the great corn and glucose producing territory between Ohio and California, and it was in Nebraska that the highest percentage of adulterated honey was found.

Bee-keepers seem to have been the last to recognize such a commodity as adulterated honey. Yet honey was adulterated extensively with cane-sugar as far back as 1865.

The manufacture of glucose gave an increased impetus to adulteration, as it had advantages not possessed by cane-sugar or other adulterants. Within the last few years honey, especially extracted honey, has been sold so cheap that it was not thought profitable to adulterate it. The American Bee Journal of July, 1888, says: "Adulteration of honey is now a thing of the past." Owing to the immense yield in California, honey is to-day cheaper than ever. But glucose and cane-sugar have also decreased in value. The work of the United States Department of Agriculture, in 1891, and my own work on honey, offered for sale in Minnesota in 1893, in Illinois in 1897 and to date, show that there is still balm for a seared conscience, and sufficient inducement in the sophistication of extracted honey to hazard detection and punishment.

(Concluded next week.)

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.. By E. E. HASTY, Sta. B Rural, Toledo, O.

FINE SAWDUST FOR WINTER PACKING.

At the Chicago convention Mr. Coggshall brought out one excellent minor trait of fine, dry sawdust used as winter-packing. When mice try to burrow in it the roof of their working immediately falls in, and they have to give up. And of course it does not, like chaff, offer premiums in the shape of an occasional eatable grain. Page 245.

PLANER-SHAVINGS FOR PACKING.

Dr. Miller's contribution to the wintering question ought to be passed around till all have had a chance at least to think about it. Put in six inches of planer-shavings and the top gets wet and keeps wet. Put in two inches and the whole keeps dry—and so presumably is better for the bees. Does damp packing, on the top of dry, really do much harm? And how about those who still stick to enamel

cloth for covering next the bees? Probably they would find a dry top on six inches. Page 245.

CHAFF HIVES FOR WINTERING.

Still debating, whether the chaff hive is a dandy or a dolt! 'Spects Mr. Dadant had the right of it. All depends on the weather and the style of winter. Severe winter with long mild spells in it and they are excellent. Severe winter with single warm days in it and colonies in chaff hives don't get half the benefit they ought—takes more than one day to warm the walls through. Presumably chaff hives ought to be best where a long, severe winter has no let up at all. At my apiary, and at present writing (May 13) nearly every chaff hive has shown surplus bees at the door; and not one of the other hives has so done. But then, I remember no other time in 23 years when the big hives have very markedly shown superiority. Unfortunately my tests are not between chaff hives and single-walls. Instead of single-walls I have 10-frame hives narrowed down to 7 frames by dummies and things inside—much better than absolute single walls, I think. Page 245.

DISCUSSING BEE-BREEDING QUESTIONS.

On page 246 Adrian Getaz shows remarkable valor in "massacreeing" men of straw. Say, Mr. G., they tell us the Kentucky colonels say "watah" instead of water; who knows but that's "nigger-milk" working out? Leastwise, in working at deep and elusive problems it is dangerous to go in with such a spirit as that shown by the following quotation: "To the one possessing even an elementary knowledge of physiology the error will appear at once." Had that spirit been always victorious where would the doctrine of parthenogenesis now be? Sometimes the elementary things themselves have to be torn up.

TOTAL EGGS OF A GOOD QUEEN.

Doolittle's estimate of the total eggs of a good queen—700,000 to 800,000. Page 247.

INCUBATION OF BACTERIA.

I was interested in A. W. Smyth's article on bacteria, page 253. Period of incubation in bacterial diseases a number of days. Bacteria reproduce to the extent of many generations in one day. Yet (apparently) no poison is secreted by any of them until about the time the victim begins to feel sick. If this is true so far it looks as if there might be more valuable truths lying aronnd in the same vicinity. *What makes* the earlier members of the new colony of minute pests refrain from secreting poison? What determines the time when poison secretion shall begin? Do they all go at it, or only a part of them? The doctrine that bacteria secrete poisons, and kill themselves and the patient also, *for the benefit of the bacterial species*—well, it seems to me as if that doctrine would bear some more looking at. Appears a little like sawing off the limb they sit on.

PROPER NAMES OF SWARMS.

Yes, our literature is badly at sea about the proper names of the different kinds of swarms. It is partly because we try to get along with too few names. The term "first swarm" is objectionable because it sometimes is not the actual first but third. Then when an actual first has a virgin queen, things differ materially from what they would have been with a laying queen; and such a swarm deserves a separate name. I say "prime," "virgin prime," and "repeater prime," for these three kinds of swarms. But I also say "repeater prime" in the quite different and much more common case where the same bees fill a hive with brood and then start out again bag and baggage—and that's a weak point in my nomenclature. First kind have plenty of young bees; last kind are apt to be all old bees. Perhaps the term "old-fool repeaters" would about fit the latter case. Then, to extend if not complete the list, we have "seconds," and "thirds," and "fourths," and "repeater seconds," and also "hungry swarms," and "absconders" not hungry swarms, and "fool swarms." The latter are those which in early spring might evidently have lived and done well had they not become so desperately excited that they had to swarm. Page 229.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Honey More Than Increase Wanted.

1. Not wishing any increase except one swarm from each colony, would the swarms issue earlier were no supers put on?

2. Would it be wise to put no supers on until after swarming? I wish honey more than increase.

3. Would it not be better to have smaller swarms earlier than larger ones later? ILLINOIS.

ANSWERS.—1. Yes, at least in some cases.

2. I think it would be unwise, unless your chief dependence is a late flow.

3. I don't think you would gain anything in honey by having smaller swarms early. Besides that, so long as honey is your desire, if you put on supers early enough, and give abundant ventilation, some colonies will not swarm at all, and you will be ahead on honey if an early flow, such as white clover, is your chief dependence. If you depend mainly on a late flow, then it might be better to have early swarms.

Cost of Bee-Books.

On page 330, "Southern Illinois" is told that it would be money in his pocket to pay $5.00 for a text-book. Are there no cheaper bee-books that are good?

"CHEAP SKATE."

ANSWER.—It was very careless in me to give an answer that might be so misunderstood. You can get any one of the best text-books for one-fourth that amount; but it would pay you well to give the $5.00 if you could not get one for less.

Hiving Swarms on Extracting-Combs Containing Pollen.

Will you please tell me whether extracting-combs with bee-bread or pollen in them will be all right to hive new swarms on? MAINE.

ANSWER.—Yes, unless there is too large an amount of pollen that is soured, moldy, or badly dried.

Management of Swarms—Transferring—Increase—Keeping Comb Honey.

1. In hiving a small swarm it is best to contract the space in the hive down to what they can fill? What I mean is, on just the frames that they are on or can hang on. We will say we have a swarm of a quart of bees, now shall I give them 3 frames, or shall I give them the whole hive and contract the entrance?

2. Having done transferring this spring by the Heddon method, they staid in the hive 13 days then they swarmed out. I hived them on starters. What caused them to leave?

3. I am running for increase. I let them swarm twice, then I wished to stop them. I put on the extracting super and raised 2 or 3 of the frames. Will that stop them? If not, what is the best way besides cutting the queen-cells out? That will do when a man has but a dozen or two colonies, I think.

4. How can I keep comb honey until along in the fall without the moth getting into it? I find it hard to have a moth-proof house. Will it be safe to fumigate with bisulphide of carbon? CALIFORNIA.

ANSWERS.—1. There is hardly any need to contract either hive or entrance, unless it be that you want to give them starters for the first four or five frames, and then full frames of foundation after the first are filled. That will save foundation, but you are not so sure of having all

worker-comb as you will be if you give nothing but full sheets of foundation.

2. I don't know enough to answer. Will any one help us out?

3. I doubt that raising two or three frames into the supers will stop them in many cases, although cutting out cells would. Perhaps a better plan would be this: When the second swarm issues, hive it and set its hive in place of the hive from which the swarm has just issued, setting the old hive in a new place. That will strengthen your second swarm, and will so weaken the mother colony that it will not be likely to swarm again.

4. The bisulphide of carbon is the thing.

Queens Direct from Italy.

Who is a reliable person in Italy to whom I could send for Italian queens? And what would they cost me?

INDIANA.

ANSWER.—I am sorry to say that I cannot answer your question.—[We would be pleased to publish an advertisement of a reliable queen-breeder in Italy. But gilt-edged references would have to be furnished.—ED.]

Proper Temperature for Opening Hives, Etc.

1. What is the lowest temperature at which it is safe to open hives and handle frames without danger of chilling brood, in the spring of the year?

2. When working on alsike clover, buckwheat and goldenrod, do you believe that Italian bees would gather a greater surplus of honey than pure black or German bees?

NEW BRUNSWICK.

ANSWERS.—1. It is not possible to answer that question by giving a single number. Sunshine and wind must be considered as well as the thermometer; and also the length of time the brood is out of the hive. At one time you may kill brood when the thermometer stands at 65 degrees, and another time you may do no harm to have it out at 55 degrees. It is better not to open hives when the thermometer is below 70 degrees if you can avoid it, but if the air is still and sun is shining there is no great danger at 65 degrees. If you must open a hive at a lower point than 65 degrees, keep the brood out as short a time as possible. A tolerably safe rule is to say that brood should not be taken out when bees are not flying freely.

2. I think they would.

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A Nebraska customer when ordering a new supply of our fine Alfalfa honey in 60-pound cans, said: "The last I got went like hotcakes." So it does.

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See honey-offers on page 348.

Please mention Bee Journal when writing advertisers.

GENERAL ITEMS

California Prospects for 1902.

Never since I came to California, in 1894, have the indications been so favorable for a most successful year. The rains have not only been generous, but they have been so timed and moderated that all has been utilized and most effective. A large grain-grower said to me yesterday that the crop of hay and grain was better than it had been for seven years.

With rain and vegetation at full vigor, California is sure to give a goodly crop of honey. I think that every indication points to a first-class honey crop this year. The bees have been at work for weeks on the black sage, and now are swarming on the tall flower-stalks of the white sage, which is just coming into bloom. California is a region of most beautiful flowers, and the bees realize and appreciate what this wealth of bloom means to them. They will be heard from this season, I am sure. A. J. COOK.

Los Angeles Co., Calif., May 7.

Made a Fine Start this Spring.

My apiary consists of only 8 colonies, but they have made a fine start this spring. I had only 4 colonies a year ago, having lost 4 colonies during the winter before. They were short of honey, owing to the dry weather in the fall. I had an attack of pneumonia in the winter, and when I became able to take care of and feed them the 4 colonies were dead. I saw then that I should have to feed them in the fall, but I thought at that time they had honey enough to winter on.

LEVI J. WHITEHEAD.

New Haven Co., Conn., May 12.

Colonies Strong Early.

Our bees are in fine condition, and are lying out some now.

I did not get to attend our State convention last fall, and I feel that I lost quite a feast.

I like the American Bee Journal very much, and am always glad to get it.

CHAS. BURCHAM.

Sangamon Co., Ill., May 14.

A Pleased Member—Bee-Prospects.

The proceedings of the Buffalo convention of the National Bee-Keepers' Association is just received. I can say it is a very neat piece of work, and must congratulate you on having put before the bee-fraternity in condensed form as nice a piece of literature as they will

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28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

33Atf Please mention the Bee Journal.

DAIRYMEN ARE DELIGHTED

to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.

DRAPER PUBLISHING CO., Chicago, Ills.

Please mention Bee Journal when writing.

The "MUTH'S SPECIAL" is a REGULAR Dovetail with a COVER and BOTTOM-BOARD that is ABSOLUTELY WARP-PROOF, therefore the best dovetail Hive on the market. Our illustrated catalog explains it all. You can have one by asking. We sell the finest Supplies at manufacturer's prices.

Standard Bred Queens. None better than our BUCKEYE STRAIN of 3-Banders and "MUTH'S STRAIN GOLDEN ITALIANS," by return mail. 75c each; 6 for $4.00. Safe arrival guaranteed.

THE FRED W. MUTH CO., Front and Walnut Sts., CINCINNATI, OHIO.

Please mention Bee Journal when writing.

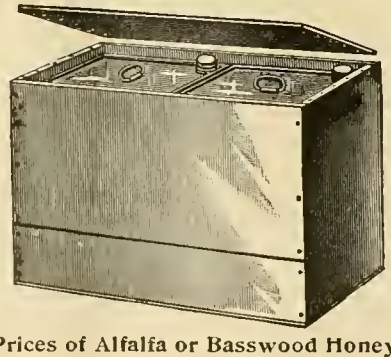
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. Basswood Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

be able to obtain for thrice the money. Enclosed find 25 cents for another copy. Such energy needs encouragement.

Bees in this section have wintered fairly well, as far as heard from. My 100 colonies came through with no loss, and are booming now on fruit-blossom and dandelions. I am pretty busy trying to keep back the swarming fever, but I fear results unless storm or frost come to help me out. At any rate, I shall be with them and try to keep them busy guessing whether to swarm or not.

JNO. W. LYELL.

Washoe Co., Nev., May 19.

Bees in Fine Condition.

Bees are doing fine here. Never before have they come through in better shape.

FRANK COLE.

Mecosta Co., Mich., May 12.

Succeeding With Bees.

I have succeeded quite well my first year with bees, as I just went into the business last year, and did not know anything about bees. But by the help of the Bee Journal, "A B C of Bee-Culture," and advice of some kind bee-men, I got along nicely, although it was a poor year.

I kept my bees from swarming, and had good, strong colonies for the late flow. I got over 500 pounds of honey from 9 colonies, while our neighbors' bees swarmed, and some went away, and while the others did not have enough stores to carry them through.

MISS B. L. HACKWORTH.

St. Clair Co., Mo., May 13.

Fine Season So Far.

We are having a fine season here so far, and between trying to farm, nail up and paint hives and supers, and hiving swarms, I am having a merry time, but one that suits better than last season. We are having plenty of rain, and everything is growing fine. The prospects for good crops and lots of honey are good.

F. W. VAN DE MARK.

Payne Co., Okla. Ter., May 10.

Bush Clover.

Enclosed please find a sample of a "weed" that grows in the timber and along the roadsides of the woods, but not on the prairie at all. It grows about one foot high, and has from one to 15 branches, and a pink or purple blossom, spike-shaped like cleome, but smaller. It is a very fine honey-plant.

CHARLES M. DARROW.

Vernon Co., Mo., April 28.

[The enclosed plant is one of the bush-clover species, but the exact identification is rather difficult to determine, owing to the immature condition of the specimen. In common with other members of the same family, it is undoubtedly a good honey-producing plant.—C. L. WALTON.]

Worst of All Springs for Bees.

I thought we had had some very hard springs for the bees, but this is the worst one I ever knew, during the 33 years in which I have been a bee-keeper. We have had just one good, warm day, but before morning the mercury had dropped from 80 of the afternoon before to 28. Wind, snow, rain, cold and clouds was the order of the day up to Thursday morning, May 8, when we had more or less snow during the forenoon. Toward night it cleared with a gale from the north, and on the morning of the 9th, after the sun had been shining two hours, the mercury stood at 22, with the wind still on. Ice formed fully one inch thick, and all of our fruit was spoiled, unless, perhaps, as we hope, apples may have survived on the later-blooming trees, which were still in the bud form. Then it froze nearly as hard on the night of

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

An Italian Queen Free!

We would like to have our regular subscribers (who best know the value of the American Bee Journal) to work for us in getting NEW subscribers. We do not ask them to work for us for nothing, but wish to say that we will mail ONE FINE UNTESTED ITALIAN QUEEN for sending us ONE NEW subscriber for a year, with $1.00; or 2 Queens for sending 2 new subscribers, etc. Remember, this offer is made *only* to those who are now getting the Bee Journal regularly, and whose subscriptions are fully paid up.

In case you cannot secure the new subscribers, we will mail one of these Queens for 75 cts., or 3 or more at 70 cts. each; or the Bee Journal one year and a Queen for $1.50. We expect to be able to send them almost by return mail.

(Please do not get these offers mixed up with our Red Clover Queen offers on another page.)

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

TEN DAYS FREE TRIAL allowed on every bicycle purchased of us. We **ship on approval** to any one in U. S. or Canada, *without a cent deposit.*

1902 Models, $9 to $15
1900 & '01 Models, best makes, $7 to $11
500 Second-hand Wheels all makes and models, good as new, $3 to $8. Great *Factory Clearing Sale* at half factory cost. Tires, equipment, & sundries, all kinds, ½ regular price.
RIDER AGENTS WANTED in every town to ride & exhibit sample 1902 model. Agents make money fast.
A BICYCLE FREE distributing catalogues in your town. *Write at once* for agents' net prices and our **special offer.**
MEAD CYCLE CO. Dept. 357 N. CHICAGO.

1902—Bee-Keepers' Supplies!
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Our Choice for honey-gatherers is a cross between the Italian and Carniolan. A limited number of Nuclei and and full colonies for sale. Healthy, vigorous, and excellent workers. Address,
20A4t E. S. RDE, CLARISSA, TODD CO., MINN.

$5 TO START YOU IN BUSINESS
We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.
DRAPER PUBLISHING CO., Chicago, Ills.

3-Frame Nuclei For Sale.

We have arranged with a bee-keeper located in Kankakee Co., Ill., (within 12 miles of Kankakee), to fill orders for Nuclei of bees. All are to be first-class, and most of the bees show Italian markings. The queens in the Nuclei will be Italian, of this year's rearing.

The Nuclei are 3-frame Langstroth, in light shipping-boxes. Prices: 1 for $3.00; 5 or more at $2.75 each.

All are f.o.b. shipping-point, and will be sent by express, a postal card notice being mailed to each purchaser a day or two before shipping the bees.

GEORGE W. YORK & CO.,
144 & 146 Erie St., - CHICAGO, ILL.

the 10th, and we had a white frost on the morning of the 12th. It rained a little on Monday night, but Tuesday, the 13th, it turned cold again, and Wednesday morning we had ice ⅜ of an inch thick, and the ice was 3 16 thick this morning. The bees have secured nothing but pollen so far this year, and a close inspection of the basswood reveals that the embryo blossoms, at the base of the incipient leaves, have assumed a brownish color, which would denote that they are all killed. If this is so, the bees will have a hard time, and this section will cut no figure in the white honey market during the fall of 1902.

G. M. DOOLITTLE.

Onondaga Co., N. Y., May 15.

Ready for the Honey-Flow.

Bees are in good shape for the honey-flow when it comes. It has been cold and windy until the last few days. We have had rain and snow in the mountains of late, so we will have water for irrigation, and I think we will have a fair crop of honey.

This county will be represented in Denver, in September. G. W. VANGUNDY.

Uintah Co., Utah, May 6.

Stone for Bee-Cellar Wall.

On page 297, "Illinois" asks the question, "Which would you prefer to use for the walls of a bee-cellar, brick or stone?" to which Dr. Miller replies as follows:

"I don't know. If there is no trouble about keeping it warm enough, perhaps brick might be better, for brick being more porous would allow more air to pass through the wall."

I may say that I prefer stone to brick for a cellar wall; because a stone wall may be so built that it will be practically air-tight; then the ventilation can be controlled to suit the weather conditions, which can not be done with a porous wall. I would even provide against the air coming in through under the wall.

Then there is another thing, the air that passes through a porous wall of a bee-cellar will be made impure by the impurities with which said wall will be saturated from cellar air. With a properly built stone wall it is always sweet.

When I built my cellar wall I paid the men by the day, and I had a definite bargain with them that I should have the privilege to stand right by them when the wall was being built and boss the job, and I did, and all went along pleasantly and well; but the building cost more than the ordinary way would have done, but it gives good satisfaction, and that is a valuable consideration to me.

I ask the Doctor's pardon, but may be he will agree with me, after all.

Ontario, Canada. S. T. PETTIT.

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, JOHN THOEMING.

MONTHS	May and June.		
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00
GOLDEN QUEENS			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00

Select tested, $2.00 each, after June 1.
Breeders, $5.00 each, after June 1.

We begin mailing Queens about May 25, and fill orders in rotation. Circular free.

D. J. BLOCHER, Pearl City, Ill.
18Etf Please mention the Bee Journal.

Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

O. H. HYATT,
13Atf SHENANDOAH, Page Co., IOWA.
Please mention Bee Journal when writing

Headquarters
—FOR—
Beekeepers Supplies
Root's Goods at Root's Factory Prices

Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand.
The freights from Cincinnati are the lowest.
Prompt service is what I practice. Satisfaction guaranteed.
Catalog mailed free—send for same.
The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.
You will save money by buying from me.

Orders taken for Queens—GOLDEN ITALIANS, RED CLOVER QUEENS, and CARNIOLANS. For prices I refer you to my catalog.

C. H. W. WEBER,
2146-2148 Central Ave., CINCINNATI, OHIO.
Successor to Chas. F. Muth & Son and A. Muth.
Please mention Bee Journal when writing.

IF YOUR GARDEN
don't **turn out** well, **Turn Everything Out** of it with PAGE 16-Bar, 48-Inch Garden Fence. The six bottom wires are only 2 inches apart. Close?
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
Please mention Bee Journal when writing

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders.

Contracts with dealers a specialty. Discount after July 1st Send for circular.

JOHN M. DAVIS,
14A26t SPRING HILL, TENN.
Please mention Bee Journal when writing.

"What Happened to Ted"

BY ISABELLE HORTON.

This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address,

ISABELLE HORTON,
227 EAST OHIO STREET, CHICAGO, ILL.

Please mention Bee Journal when writing Advertisers.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.

7A26t Please mention Bee Journal when writing

BINGHAM'S PATENT Smokers
24 years the best. Send for Circular.
25Atf T. F. BINGHAM, Farwell, Mich.

BOYS WE WANT WORKERS
Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

Fancy Glassed Comb Honey

Any bee-keepers in New York or Pennsylvania producing either White Clover or Raspberry Fancy Comb Honey (in glassed sections), will find it to their interest to write to the undersigned at once.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

Have You Seen Our Blue Cat-

alog? 60 illustrated pages; describes **EVERYTHING NEEDED IN THE APIARY.** **BEST** goods at the **LOWEST** prices. Alternating hives and Ferguson supers. Sent FREE; write for it. Tanks from galv. steel, red cedar, cypress or fir; freight paid; price-list free.

KRETCHMER MFG. CO., box 90, Red Oak, Iowa.

Agencies: Trester Supply Co., Lincoln, Neb.; Shugart & Ouran, Council Bluffs, Iowa; Chas. Spangler, Kentland, Ind. 12E26t

Please Mention the Bee Journal when writing Advertisers *****

BEEDOM BOILED DOWN

An Enthusiastic Queen-Clipper.

After an experience of 30 years, G. M. Doolittle has the following to say in Gleanings in Bee-Culture:

I am so well pleased with the plan of natural swarming with queens' wings clipped, after trying all other plans used in such natural swarming, that I would as soon think of going back to the box-hives as to return to the old way of letting the queens have their wings as nature made them.

Larvæ or Worms.

L. Stachelhausen evidently thinks that it might not be a safe thing if every one should take Mr. Hasty as authority, and consider it his inalienable right to use names to suit himself. In the Lone Star Apiarist he gives an interview between himself and his storekeeping friend, W. Here is part of the conversation:

"Friend W.," I said, "you know that some people, not acquainted with bee-keeping, will very often use incorrect expressions, and you have laughed when you told me of such occasions; so it is with all branches of trade and science. The better a man is educated the less wrong expressions he will use. As we can not know everything, we all blame him for ignorance. For instance, if a bee-keeper calls the queen a king-bee, etc. If I make a mistake of this kind in some branches of science I am not familiar with, I am always glad if another man, better educated in this branch of science, will correct me, as I do not like to expose my own ignorance if I can avoid it. So I think Hasty is entirely wrong in this respect."

"O, no!" our storekeeper fell in, with a smiling face; "I go with Hasty, whom I do not know, as I am no bee-keeper, but I can see at once the advantage of his opinion. If I fix up a glucose mixture and call it honey, or if I call some 'margarin the finest country butter, and sell it that way, it is one of my inalienable rights, and you have to give me a premium if I do not sell you axle-grease for butter. Ha! ha! do you see the point?"

"That will not do," said W.; "this is against the pure-food law."

"If it is against my personal liberty, if somebody wants me to call these things by the correct name, as Hasty says it is, then the whole pure-food law is against this inalienable right, and consequently against the constitution."

The Wind and Wintering.

The wind is a factor in wintering that is not sufficiently considered. Some speak as if an increase of latitude must make an increase in the severity of the winter. The isothermal lines do not by any means keep company with the parallels of latitude. The wind may cut more figure than either. Where I live the wind thinks nothing of keeping up a lively gait 24 hours at a stretch, with the mercury not far from zero. I can easily imagine a place 500 miles further north, and a good many degrees colder, where it will be easier on outdoor bees than in this windy locality.—[It is not much wonder to me that Dr. Miller has never been able to make a success of outdoor wintering in his locality. A lively gale of wind for 24 hours on a stretch, with a zero temperature, is something we do not have in Medina, for perhaps more than one day in the winter, although we may have several days of high wind when the temperature is 20 above; but these are liable to be followed by a warm spell, and it is not an unusual thing during the winter for bees to have a flight. Notwithstanding, however, we have made a great success with outdoor wintering at Medina, I am coming to the conclusion that

the indoor method, even here, will be more economical in the consumption of stores, and give us stronger colonies for the honey-flow. I may change my mind; but that is the way the straws round about Medina blow just now. —EDITOR.]—Stray Straw in Gleanings in Bee-Culture.

Box-Hives.

These are ruled out by all advanced bee-keepers in this country. But it must not be forgotten that the advantage of movable-comb hives is all on the side of the bee-keeper, and if no advantage is to be taken of the movable feature—in other words, if the movable combs are never to be moved, then it may be the better plan to use box-hives. Writing in the American Bee-Keeper upon the subject of spring dwindling, W. W. McNeal says:

The movable-comb bee-hive, while it greatly facilitates work in the apiary, compromises in a large measure the natural protection of the box-hive to the bees. This must be conceded, since bees in box-hives nearly always pass this critical season of the year more successfully than do those in frame hives.

You may say it is because colonies in the larger box-hives usually have more and better stores; that by reason of the good, ripe sealed honey the bees winter better, and they are stronger than if compelled to feed upon honey that was gathered late in the fall. This is all very true, and one of the essentials in the prevention of spring dwindling. But the natural advantages of the box-hive is seen further in the fact of the combs being attached to the cover-board, thus dividing the spaces between the combs into so many little rooms. The bees are enabled to regulate the heat of the cluster earlier in the season, for it is held right where it is needed. And by the time the bees can fly actively in the spring, there are a large number of young bees ready for duty.

In frame hives the air circulates freely all around the combs, and unless the hive has abundant protection from the cold, the actual comb-space within the clusters that is sufficiently warm for brood-rearing is so small that the colony barely holds its own till the arrival of settled warm weather. The old bees wear themselves out from exposure in a vain attempt to carry on brood-rearing. With the air circulating freely throughout every part of the hive, and a loose cover-board permitting the escape of warm air, the conditions are about as adverse as they could be.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing advertisers.

Adel Queens and Bees

The standard strain of yellow-banded bees. All select-tested Queens. Each, $1.00. Ready to mail June 1. Cat. free.

HENRY ALLEY,

22A4t WENHAM, MASS.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,

330 Market Street, - SAN FRANCISCO, CAL.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	1 00	1.80	4.25	8.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.

144 & 146 Erie Street, - CHICAGO, ILL.

FOR DECORATION DAY

the Nickel Plate Road will sell tickets at one fare for the round-trip within a radius of 150 miles from starting point, on May 29th and 30th, with return limit of May 31st. When going East, patronize the Nickel Plate Road. Vestibuled sleeping-cars on all trains and excellent A la Carte dining-car service. For detailed information address John Y. Calahan, General Agent, 111 Adams Street, Chicago. 'Phone Central 2057. 7—22A1

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

WE MUST MOVE. SO MUST THE BEE-HIVES.

1000 St. Joe, best hive made, 8 fr. 1½-story, and 200 10 fr. AT PRICE YOU WILL NEVER DUPLICATE. Write and say how many you want.

35 Dovetail, 8 fr. 2 story, Ideal Supers, $1.00 each.
15 Dovetail, 8 fr. 2 story, for extracting, $1 00 each.
40 Dovetail, 8 fr. 1½ story, Ideal Supers, 90c each.
5 Dovetail, 10 fr. 1½ story, Ideal Supers, $1.00 each.
25 Lewis' Champion Chaff Hives, at $1.35 each.

Plenty of other goods in stock. Special price on 10-frame St. Joe Supers.

Act at once. NO MORE AT THESE PRICES WHEN THESE ARE GONE. No agents wanted, no private checks taken, cash only goes. No delay in shipping.

Hives crated in fives. First-class work. **E. T. ABBOTT, ST. JOSEPH, MO.**

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, May 19.—The market is without special change from that prevailing early in the month, with perhaps less doing than was noticed at that time. White comb honey sells in a small way at 14@15c for fancy, if white clover and basswood; other kinds at 12@13c; ambers of all grades and flavors are dull at 8@10c. Extracted unusually quiet with white ranging from 5½@6½c; ambers, 5@5½c; dark, 4@5c. Beeswax still active at 32c.
R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH Co.

ALBANY, N. Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6½c. Beeswax, good demand, 30@31c.
H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c; Florida honey, in barrels, 6@6½c. BLAKE, SCOTT & LEE.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

CINCINNATI, May 8.—As the warm weather set in, the demand for comb honey is as good as over. There are no settled prices; for whatever is left, prices are made to force sales. Extracted honey is in fair demand and finds steady sales. Amber is sold in barrel lots for 5@5½c; water-white alfalfa, sells from 6@6½c, and white clover brings from 6½@7c. Beeswax scarce and brings 30@3tc. C. H. W. WEBER.

NEW YORK, May 19.—There is a limited demand for comb honey and prices range as follows: Fancy white, 14c; No. 1, white, 13c; amber, 11@12c; no buckwheat or dark on the market and no more demand for any. Market on extracted remains very inactive. Plenty of supply with only fair demand. We quote: white, 5½@5¾c; light amber, 5@5¼c; southern, in barrels, 50@55c gallon. Beeswax firm at from 30@32c pound, according to quality.
HILDRETH & SEGELKEN.

SAN FRANCISCO, May 14.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Spot stocks are not of heavy volume, but there is more offering than can be accommodated with prompt custom at full current rates. Business now doing is mostly of a light jobbing character on local account.

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Manager North-eastern Branch The A. I. Root Co.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JUNE 5, 1902.

FORTY-SECOND YEAR
No. 23.

VIEW OF THE APIARY AT THE CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT., CANADA, WITH HOUSE-APIARY AND WORKSHOP ON THE RIGHT.

(See page 356.)

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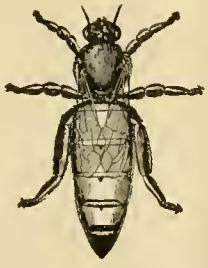

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JUNE 5, 1902. No. 23.

Editorial.

Ho, for Denver!—There seems to be much enthusiasm among Western bee-keepers with regard to the convention to be held September in Denver. They have had excellent local conventions in that region, and with the addition of others from outside it is likely to be one of the most notable National conventions ever held.

Honey by Mail.—It seems a little strange to us Americans to see in the British Bee Journal mention made of improved boxes for sending sections of honey by mail. We couldn't afford it in this country, but, with all our boasting, Johnny Bull is away ahead of us with his "parcels post" to send things cheaply by mail.

Pear-Blight and Bees.—The Pacific Rural Press contains a report from Charles Downing, who covered trees with netting to note the result. He seems to conclude that the bees are responsible for much of the damage, if not all, estimating his loss on his crop of Bartlett pears last season, due to blight, at $10,000, and his loss this season up to the time of the report, at not less than 1000 tons of fruit on 9000 trees. Just how the discrepancy between his view and the views of others can be accounted for remains to be seen.

Sweet Clover in Ohio.—A bill was introduced in the Ohio legislature intended to kill sweet clover in that State. Instead of sweet clover being killed, it seems that the bill itself was killed, according to the following item from Gleanings in Bee-Culture:

The iniquitous sweet-clover bill that was introduced in the Ohio legislature has been killed, and killed so dead that I hope no succeeding legislature will try to pass another measure like it. This only illustrates that bee-keepers, when they are united, and write to the members of their legislature, can exert a powerful influence. If it had not been for the bee-keepers of New York the new anti-adulteration honey law would not have been passed.

Bees Not Carrying Pollen into a hive when other bees are carrying in large loads is generally considered a sign of queenlessness, and that is probably all right; but the converse is by no means always true, that when bees are carrying in pollen they have a laying queen. Most bee-keepers have probably noticed that a queenless colony has an unusual amount of pollen in its combs. That would not be the case if the bees would stop carrying pollen as soon as queenless. Possibly the truth is something like this:

Bees have some discrimination in the matter of collecting pollen, and if there is an over-supply in the hive they will let up on the gathering, no matter whether they have a queen or not. When a colony loses its queen, the workers keep right on gathering pollen just the same, but when the combs begin to be well supplied with pollen then they desist from gathering. So when a colony is carrying in no pollen, it shows that it has been queenless for some time.

Using Starters, Full Sheets, and Combs for Swarms.—Not infrequently the question is asked how to mix these when hiving upon them a swarm. G. M. Doolittle says in Gleanings in Bee-Culture:

"My advice to all is, and has been ever since comb foundation came into use, to use only starters in the frames in hiving swarms, or else fill all frames with foundation, or give all frames filled with comb."

Italians and Red Clover.—Discussing the question of getting honey from red clover, M. Leger says in Le Rucher Belge:

"October, 1899, we received an Italian queen, but she was small, dark, and insignificant to such a degree that it was hard to distinguish her from the workers. However, in the summer of 1900 she built up an enormous population, which, however, gave no more surplus than the blacks. The last harvest came at the beginning of August, and this Italian colony, which had hung out during the excessive heat, received a super of frames simply furnished with starters. Fifteen days later, upon the visit of a friend, we opened this super; it was completely filled. So in two weeks this colony had built 10 extracting combs 13x6½, had filled them with honey, and sealed them. The combs were beautiful, of an immaculate whiteness, almost transparent. Other colonies with black bees had at the most one or two pounds of honey in their supers."

Circumstances were such as to warrant him in thinking that the great advantage of this one colony was in its working on red clover.

Are Long Tongues of Value?—With the passing of time it ought to be possible to get an unprejudiced answer to this question. One thing that seems to be settled is that there is a decided difference in the length of different tongues. As to the importance of extra length, opinions have varied from thinking that bees should be valued in exact proportion to the length of tongue, to thinking that length of tongue is not worth considering at all. Probably neither extreme is correct. The thing that is desired is to have the largest possible crop of honey; and if it should happen that a colony with short tongues should get the larger crop, why not prefer the colony with shorter tongues?

At the same time it looks reasonable to suppose that wherever there is any plant like red clover with corollas too deep for ordinary tongues—and it is possible that such plants may be found quite generally—extra length of tongue must mean extra storing of honey.

However great may be the value of tongue-length, it may be that it will be wiser to measure the crop stored rather than the tongues that stored it.

Labeling Honey with the producers' name and address is the proper thing if the producer retails it himself. If he sells his crop to a dealer, then he should omit his name and address unless the dealer gives him permission to label it.

Retail Packages for Honey.—In the discussion in the Ontario convention reported in the Canadian Bee Journal, the thought seemed to prevail that in the country it was not necessary to have less than from 20 to 60 pounds in a package, while in the cities half-pound packages were needed. J. B. Hall put the matter tersely by saying, "The larger the city the smaller the package."

Extracted Honey—Which is Right?—In the Progressive Bee-Keeper, Editor Doolittle quotes some withering accusations against bee-keepers, in which they are charged with putting on the market extracted honey so vile in character that it hurts the market more than the adulteration with glucose, and says:

"Bee-keepers, as far as I know, take every precaution to put nothing but the best before the public at the present time."

The difference in these two views is very extreme; both can not be right. Do bee-keepers themselves put on the market that which is unfit to eat, or is there nothing but extracted honey of the best quality to be found?

Low Price for Extracted Honey, according to "X-Rays" in the Rocky Mountain Bee Journal, is not so much due to adulterating foes as it is to the bad practices of bee-keepers themselves. He says:

Of course, the presence of large quantities of glucose mixture labeled "honey," and offered cheap, has a depressing effect on the price of pure honey, especially if the mixture and pure honey bear any resemblance in quality and taste. There is so little difference between glucose honey and thin, unripe pure honey (and that is the character of much of the extracted honey found in the city mar-

kets) that the consumer can not detect it. Both are so vile that the consumer is soon disgusted and quits trying to eat it, and thus is the demand lessened and the market spoiled for really good honey. Here is the root of the apparent over-production.

The remedy is to put only first-class goods on the market, in which case he thinks it will be difficult to meet the demand.

Relative Size of Bees.—Locoppe Arnold, in Le Rucher Belge, takes comfort in the thought that workers are the smallest members of a colony of bees. Suppose the order were reversed, and the drones were smallest and workers largest, what use could be made of excluder-zinc?

APIARY OF T. S. APKER, OF LYCOMING CO., PA.

Weekly Budget.

THE BUFFALO CONVENTION REPORT in pamphlet form was mailed to the membership of the Association, as shown by the published list of names. But it seems that some have not read the Report carefully, and so are sending us 25 cents for the copy we mailed them, when it says on pages 11 and 12 of the Report that the Association voted to have the Buffalo convention proceedings put in booklet form for the members. The Association pays for it, so the members need not pay again for the Report.

THE CANADIAN EXPERIMENTAL APIARY is shown on the first page. We are permitted to present it to our readers, through the kindness of Prof. James Fletcher, Entomologist and Botanist of the Dominion Experimental Farms, who wrote us as follows:

In the autumn of 1893, in response to many representations made to the Honorable Minister of Agriculture, arrangements were made for the institution of an apiary at the Central Experimental Farm at Ottawa, in the extreme west of the Province of Ontario. This work was placed under the supervision of the Entomologist and Botanist; but the practical management of the work was entrusted to Mr. John Fixter, the Farm Foreman, who has had considerable experience as an apiarist, and who has carried out all the experiments which have been tried from the beginning of this work until the present time, and which have been reported upon year by year in the report of the Division of Entomology, which forms part of the general report of the Experimental Farms.

A suitable space was chosen near Mr. Fixter's house, where the colonies could be conveniently watched and attended to. About 50 colonies has been the average capacity of this apiary, and some interesting experiments have been tried. Among these may be mentioned the testing of various comb foundations as to quality, and when milled at different temperatures, heavy and light sheets made with different mills; the wintering of bees—in a cellar, in a pit dug in hill-side, in a house-apiary, in a root-house, and out-of-doors, with various protections; experiments with different degrees of artificial heat in the cellar, with a careful record of the temperatures and the results; the feeding of sugar syrup for winter stores; experiments with the house-apiary against the open apiary in summer; and also experiments to decide whether bees could puncture sound fruit of various kinds.

Records have been taken of the weights of colonies daily during the summer, and also of the various plants in bloom which were particularly attractive to bees, not only of the more commonly cultivated plants, but of many others in the extensive collection of native and introduced plants grown on the grounds of the Central Experimental Farm.

A large number of farmers and fruit-growers visit the apiary every year, and every facility is given them to examine the work and to avail themselves of the information at the disposal of the apiarist. Mr. Fixter is an enthusiast, who is thought by Canadians to be the right man in the right place, and is well known to many of the fraternity in the United States, who have met him at the annual conventions. JAMES FLETCHER.

We may say further that we have had the pleasure of meeting Mr. Fixter at several of our National conventions. He certainly has a very neat apiary. We think bee-keepers, both in Canada and in the United States, would be glad to hear from Mr. Fixter.

CLOSE SATURDAYS AT 1 P.M.—Our customers and friends will kindly remember that beginning with July 1, for three months we will close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

THE APIARY OF T. S. APKER, of Lycoming Co., Pa., is presented herewith, through the kindness of Mr. W. H. Heim, who visited it, and sent us the following concerning it:

About 21 miles north of Williamsport, in a small town, is located the apiary of Mr. T. S. Apker, who is an extensive bee-keeper. When a little boy he took great pleasure in his father's apiary, by helping his father what he could until at the age of 16 years, when he began to have bees of his own, and has been a successful bee-keeper for 22 years. However, in the year 1891, misfortune came to him, as it does to nearly every bee-keeper. At that time Mr. Apker lost 45 colonies with that dreadful disease—dysentery. This did not discourage him in the least, for he made a new start, and has now an apiary of 125 colonies in good condition.

The apiary is located in an orchard with grape-vines as shade. A better location could hardly be found for basswood honey, which is his main crop. He works his apiary mostly for comb honey, and a little extracted, but finds good sale for all the comb honey in his neighborhood and in Williamsport.

The hives that Mr. Apker uses are of his own make, and are somewhat on the same principle as the Langstroth. The supers are made the same as the T-super, using the 4-opening sections with wood separators. The finest comb honey I saw last season was produced at this apiary, and was of the finest quality, being the best filled sections and of nice basswood flavor.

In the picture will be noticed in the background the hills where there are plenty of basswood, also on the west side of his apiary are hills of the same, surrounded with good pasturage of basswood, where nectar is gathered by his strain of bees, which are mostly blacks and Italians.

Now a word about Miss Nellie, daughter of Mr. Apker, who is also taking a great interest in bees. I am sorry that in the photo the readers are not able to see the colony of bees which she owned at the time I was there, it being on the south side of the apiary, and, therefore, not shown in the picture. This was a runaway swarm which she hived herself, being stung some. But this did not discourage her in the least. She is quite a help in her father's apiary, and takes a great interest in the busy bees.

Through the effort of Mr. Apker and two other men, who helped him during the last flood in December, his apiary was saved. Near the apiary flows the Lycoming creek, which overflowed its banks, endangering the apiary from being flooded or washed away. There was 16 inches of water in it, which made it necessary to move the bees to a higher location. Some bee-keepers lost their entire apiaries during this flood, and some lost from 40 to 50 colonies, which was quite a loss to many in this section. This was also true of Loyalsock creek, which overflowed, and caused bee-keepers to lose their apiaries. Mr. F. A. Hayes lost 50 colonies during the flood. He is also an extensive bee-keeper in this county. I am sorry to say that many bee-keepers lost their apiaries in that flood.

W. H. HEIM.

Rearing Our Own Queens.

W. H. Pridgen, although a well known queen-breeder, seems to think it well for bee-keepers largely to rear their own queens. In an article in Gleanings in Bee-Culture he says:

The tendency on the part of honey-producers is, to a greater extent than ever before, to rear their own—not only because a larger proportion of those reared at home give better results than those transmitted through the mails, all else being equal, but because the essential conditions for the production of the highest type are more generally understood.

Bees are no longer regarded as bees without considering their qualities; but each progressive bee-keeper is continually on the lookout for superior honey-gatherers and other desirable traits shown by individual colonies.

The ability to rear our queens from the best mothers, and control their mating to some extent by weeding out and preventing the production of objectionable drones, and thus, step by step, make permanent improvements in the working qualities of our bees, not only increases our profits, but lends enchantment to pleasure.

Next Week we will be able to announce something definite about rates and accommodations for the Denver convention in September.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 341.)

THE PRODUCER'S NAME ON COMB HONEY.

"Should the producer put his name on the sections and cases of the honey he sends to markets?

Pres. York—Mr. Burnett, you are one of the men who control this market—so Mr. Dunn said—what do *you* think about it?

Mr. Burnett—I don't think that was really established—that I am a market controller. Well, I don't know, where people are sending honey to a large market, whether or not it is any advantage for the names of the producers to be put on the shipping-cases. As a matter of fact, my experience has been that it is a disadvantage, as a whole. I presume it would be conceded by most of you that the best honey is the honey that a person likes. It is immaterial what the name of it is, or where it was gathered. When the people can see the name of John Jones, of Colorado Springs, Colo., on the honey, they might say, "Oh, I have seen that place out there; that honey is all gathered from wild stuff; I guess it is not very good; I would rather have some clover honey." On the contrary, if he wants some of that honey, if you don't happen to have any of it, and you let him taste something else, why he says, "Yes, that is what I am looking for." He will give it a name, and tell you what honey it is, which may be quite the contrary to the fact, but he is entirely satisfied that that is the honey he wants. I have, as a matter of fact, lost sales of honey from the fact that the producer's address was on the cases. For years we used to scrape the names off the cases, so that people would buy on their judgment, and not on their prejudices. The question was up this afternoon, while I was here, with regard to sweet clover honey, as to the taste of it, and its tasting strong. There is a gentleman of means in this town, who perhaps for years has bought a case of honey of us nearly every autumn, and has happened to get something that suited him, so a year ago he came; he is a man about 60 years old, and in business, a man of more than ordinary intelligence. He bought a case of honey, and in two or three days he came back. I happened to see him when he came in. He went up to the cashier's window and asked for a bill for the case of honey he had bought at such and such a time. He got it, and after he had the bill receipted, having paid it, he came over to where I was sitting, and said: "I bought a case of honey here the other day, and it has got to be like everything else, you can't get any honey that is pure and fit to eat; I want to send that case of honey back." "Well," I said, "all right, sir." So he got his money back, having returned the honey. As soon as I saw it, I knew, of course, what the trouble was—he got a nice-looking case of sweet clover honey, but he didn't know anything about sweet clover honey, only that it tasted wrong. People have heard that honey from certain sections of the country is not good; others have heard that the honey from that same section is very good, but if they have an opportunity of judging what the article is, for themselves, and not by the printed matter that is on it, so that their prejudice will prevent there buying something that they really want, it often results in sales; otherwise it might be a loss. This is from an experience running over 25 years, and when people really ask me, honestly, whether their names ought to be put on, I tell them, as a matter of fact, for sale in this market, it ought not to be. But in nearly all cases we are misunderstood; they say we want to sell something on which we are making a greater profit, therefore we don't want their names; also that people will want to buy this honey and won't take any other, and so on. Now that isn't fair; we want to sell all the honey we can; we at the same time want to satisfy the people who buy it. Why, if there was no one to buy the honey we couldn't sell it, so we are as anxious to please the party who has honey to sell as we are to please those who want to buy honey. A gentleman comes in to see me occasionally, and twits me with what Dr. Miller here will enjoy very much, as it is a joke on me. He was in one day, and wanted to know if we could sell honey at a high price. "Oh, yes," I said, "we have the reputation here for selling honey at a high price." There was a gentleman standing right beside me who wanted to buy some honey. I turned to him and said, "Do you want to buy some honey?" He said, "Yes, but I want to buy it cheap." "Certainly," I said, "we sell cheap." He said to me, "I just heard you tell that man that you sold for a high price." There is just this about it: The man who has goods to sell wants to sell dear, and the other man wants to buy cheap. It is a little difficult to please both of them, but we try to strike a happy medium.

Mr. Dunn—I want to take exception to Mr. Burnett on this question. It is the duty of every man who produces honey to brand it; if it is a good article, he can afford to stand on that; if it is a poor article, he will soon find it out, and know what the market for it is. I brand all my honey—all my cases—and I stand on my record and guaranty, and there is no trouble about it. I would recommend every bee-keeper to brand his honey; that is what gives it a standard. Make a reputation for yourself by sending proper goods to the market, and proper weights, and there will be no trouble about selling your honey.

Mr. Horstmann—I think we have to satisfy the people we are buying honey from. I don't believe it is necessary to stamp honey, if we are selling it to commission men who are going to sell it again. In my own neighborhood I would put my stamp on. They would notice that stamp. But in sending it to a commission firm, I would not do so. After I have sold the honey to them, it doesn't belong to me any more, and I don't think it is right to put my name on it, unless they want it on. It all depends on the party who is buying the honey; if he wants it, all right; if not, it should be left off. If I had a lot of honey to sell in that way, I would ask, "Do you want the stamp left on or off?" and if I was told to leave it off, it would be left off.

Mr. Riker—If I were to buy honey from commission men, I would much rather the name of the producer would be on the case of honey; then I would not be afraid that the honey had been tampered with in any manner.

Mr. President—This is comb honey, Mr. Riker.

Mr. Ricker—I would have the producer's name on it, if I were going to buy honey of a commission man, as that would be a guaranty that it was good honey. That is the way I would look at it; I think other people would do as I would do in that respect.

Mr. Burnett—Does a fact of a name being on a section of honey guarantee that it is good?

Mr. Riker—Not necessarily.

Mr. Burnett—Then that doesn't amount to anything.

Mr. Riker—If the producer puts an article in the hands of commission men with his name on it—the man who buys it would expect that the producer was honest, or he would not want his name on it.

Dr. Miller—Like most questions, this one has two sides to it, and I think it may have three sides. If I have comb honey, and am supplying the market, if I am known even a little bit as an honest man, people get to know the honey that I sell, and I put my name on it. Say where one of you live, you have the reputation there of being honest; people will buy your honey and would rather buy it than any other, and in that case it is well to have the name on it, if you are the producer. Your groceryman will prefer it, providing that you produce good honey. Here is another case, in which a man has a trade. Suppose that I were selling honey in Chicago, and going around and delivering it. I must buy from you producers; now I would rather not have the name on, because I have a trade of my own that I am building up. If one of you should say to me, "I am willing to supply you that honey, but I want my name on it," I would say, "No, I have built up my trade, and have taken pains to get customers, and I am entitled to get credit for the work I have done. I want to sell my honey that simply goes as my own, and I don't want any name on it; and if you don't like that, you don't need to sell the honey to me." If a man were doing a large enough business, so as to produce an amount to supply largely any one of the large markets, it might be possible that he would prefer to have his name on it, because it would be handled largely, and his name on it would have its advantages, and the dealers might want it on. The same as I have in mind now—the Atwood Clothing people handle the Rogers, Peet & Co.'s ready-made clothing, and the Atwood people want that name on those goods, because they are supplying those par-

ticular goods to the trade. There might be such a case in handling honey, where both sides would want it; the same thing applies to the Diston saw; any dealer in hardware would be glad to have the stamp of "Diston" on their saw goods, because they will sell better for it. It is a matter of mutual understanding. I think it must be conceded, that if any man wants his name on his goods, it ought to be on, and if any one does not want to handle it, he doesn't need to do it. I have some doubt about the propriety of having commission men, or any dealer, scratch off the name from the cases; I very much doubt the rightfulness of that. Then there is that matter of prejudice which has been spoken of here. It is a poor rule that won't work both ways. The very fact that people are prejudiced might work good for the producer as well as it might work harm. A person is prejudiced in favor of a certain kind of honey, so he buys it. It works both ways, but I very much doubt whether you will settle the question here; people will do as they please, and every one of you who produce honey, if you want your name on it, you have a right to put it on.

Mr. Moore—There is one thing that occurred to me. I am actually spending five cents a pound in expenses and advertising, to put honey on the market; that entitles me to have my name printed on every pound of honey I sell. My customer wants uniformity. If I give him, this time, honey that Mr. Baldridge produces, the next time Dr. Miller's, then honey that Mr. York or Mr. Dadant produces, there is a lack of uniformity, and he will think right off: "If this man gets his honey from Dadant, and Baldridge, and York, and some one else another time, I don't want it;" whereas, if it all comes with Moore's name on it, the uniformity will strike him and help sell the honey.

Dr. Miller—If Mr. Moore has a customer, and he sells to that customer some honey that he likes very well, and it has my brand on it, the person may find out that he likes my honey best, and he will buy his honey from me, or whoever produces it; Mr. Moore will lose his sale. There is a question whether I would gain in that instance. He is working and spending five cents a pound to make his market—ought he not to get the benefit of it rather than I? We must look at both sides. Looking at it from my side, I might say, "I don't care; I want to get the credit for it;" but if I want to be entirely honest, he ought to have some reward, if he is expending money to build up his trade.

Mr. Horstmann—If I sell my honey to Mr. Moore, Mr. Moore will sell that as Moore's honey. He is responsible to his customers for that honey, and I am not responsible to his customers, only to Mr. Moore; so I think it is perfectly right, if the buyer wants the name left off, he should have it left off. If any man buys honey from me, I don't care whether my name is on or not; if he doesn't want it on, I won't put it on. If you insist on putting your name on it, it will lose you lots of customers. If I were buying honey, I could get all I wanted without any name on it; and if some one selling me honey wanted to have his name on it, and insisted on its being on, I would buy from somebody else.

Dr. Miller—I move that we allow every bee-keeper to do as he pleases.

Mr. Stowe—I believe as Dr. Miller does on several points. I sat in the grocery-store last evening, and a man came in and said: "Have you any of Stowe's honey on hand?" I was standing there, but he did not recognize me. The grocer said: "Yes, I have it; it has his name on it." Then the man said, "I want some; I know it is pure; I bought some in Chicago a few days ago, and my folks didn't like it at all, so I want some of Stove's—some that is pure." My name on that honey was a recommendation for it; but if I were going to ship honey to Mr. Burnett, I would leave off the name.

Pres. York—I should like to know what right Mr. Stowe has to put *his* name on it, when his *wife* is the bee-keeper!

Mr. Stowe—It is an old stamp—it didn't have "Mrs." on it. [Laughter.]

(To be continued.)

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Contributed Articles.

Does Getting Bees Started in the Brood-Nest Seriously Interfere with Starting in Supers.

BY DR. C. C. MILLER.

ON page 311, Mr. Doolittle asks me to tell the reasons for my unbelief in the statement "that allowing bees to get started storing in the brood-nest seriously interferes with their storing in supers." I am very glad to reply to the man to whom I owe not a little for some of the things I have learned about bee-keeping.

I do not see that the first quotation from Mr. Boardman conflicts in the least with my belief. I think that no bee-keeper of any experience ever expected his bees to begin storing in supers while there is plenty of vacant space below. I should be glad to understand how that conflicts with what I believe to be the fact that starting to store in the brood nest does not seriously interfere with their storing in supers.

The second quotation from Mr. Boardman is given without saying where it is to be found, and, taken from its setting as it is, I do not know its full bearing—do not know what time is "this time," nor the conditions involved—so I cannot say whether it conflicts with my belief or not.

If I am not mistaken, storing in any and every case, in accordance with the first quotation from Mr. Boardman, begins in the brood-nest—possibly, to be more exact, in the brood-chamber or brood-combs—which, however, does not materially alter the case. The bees first store in the brood-chamber till it is filled. Moreover, a writer for whose opinions I have much respect is very positive in the opinion based on very careful observations that no bee coming from the fields ever goes straight to the super to deposit its load, but leaves it always in the brood-nest. Afterwards, it is carried by younger bees into the super, providing there is not room for it in the brood-chamber. If, however, there is room for it in the brood-chamber, in the brood-chamber it will be left, no matter how strong may have grown the habit of storing in supers.

One year, a good many years ago, I thought I might prevent swarming by giving additional room in the brood-chamber for the queen to occupy. I put one, two or three empty combs in the middle of the brood-nest. If three combs were given, the bees promptly filled them with honey, in spite of the previous habit of storing in supers, and only when the queen was ready to use those combs were they emptied out for her.

When I used 10-frame hives, there was more honey stored in the brood-nest than I find in 8-frame hives, and if the harvest began with empty combs in the brood-chamber those empty combs had to be filled before work was done in the super, and I would rather have that white honey in the super; but when the brood-chamber was filled I could not see but the bees went to work in the super just as willingly as if they had earlier formed the habit of storing in the super. Perhaps that does not exactly express the thought. Bees are creatures of habit, and after storing in a certain place, other things being equal, they will go on in that place more readily than they will commence in a new place. But always the desire to have their stores near the brood-nest is stronger than the habit of storing away from it, and they will store elsewhere only when compelled for want of room in the brood-chamber. What I mean is, that after filling up two or more combs in the brood-chamber they will then as readily form the habit of storing in the super as they would have done in the first place if they had not had those two or more combs to fill.

I think I have seen stated in forcible language by the same writer whom I have mentioned, that when the old queen is succeeded by a virgin queen the bees during her virginity devote their energies to filling the brood-chamber with honey, and then when the young queen begins laying the honey is rushed above and the supers filled with marvelous rapidity; that, in spite of the fact that the bees have been fixing the habit of storing in the brood-chamber. Does Mr. Doolittle think he would get any more honey if, during the time that the young queen has not yet commenced to lay he would fill the brood-chamber with dummies so as to force the bees to continue the habit of storing in the super?

Give a colony an extracting-super, and keep it restricted to that one story, emptying it often enough to give them room, and after having the habit of storing in that one story continued during three weeks time, give them a second story without emptying the first, and see if they will not as promptly enter the second super as if it had been given two weeks sooner.

It is probably the truth that habit has its bearing, but not enough to be a serious hindrance; that bees always prefer to have their stores as near as possible to the brood-nest, and store away from it only when compelled to do so; that after having continued the habit of storing in the supers no matter how long a time they will always change to storing in the brood-chamber if room there is given; that they *always* begin storing in the brood-chamber before storing in sections; and that the length of time they continue storing in the brood-chamber has no special bearing upon their hesitancy to begin in the supers.

Mr. Doolittle wants me to give a better plan if I have one. As no plan has been mentioned I do not understand to what he refers. If he will say to what plan he refers I will be delighted to give him a better one—if I have one. But I have not been aware that we have differed in any plan that might be affected by a difference of belief as to the things that are herein mentioned. McHenry Co., Ill.

Question, "Do Robber-Bees Sting?"—Answered

BY W. W. M'NEAL.

ON page 115, in an editorial under the heading, "Do Robber-Bees Sting." A supicion is ventured that robbers do not sting the defenders of the hive they are trying to rob. Moreover, the Editor asks for something positive upon the subject, and here it is: Robber-bees do sting at such times, and with terrible effect, too. If this were not so, how is it they are so successful in over-running at times a good, normal colony? Surely, the bees of the attacked colony are not intimidated by any superior force of numbers, and retreat before the robbers in their rush for the stores! This is not in the nature of the honey-bee when she feels that her home is worth fighting for. When such a colony submits to the plundering of its combs, you may know that its fighting force has been swept away by the fierce onslaughts of those frenzied desperadoes.

There is something peculiar about the apparent ease with which robber-bees will, in so many cases, get the better of a bee that opposes it in an endeavor to enter the hive. The robber is worked up to the very highest pitch of excitement and abandonment to an evil habit; the poison-glands pour forth their fiery fluids more bountifully; and, the honey-sac being almost perfectly in a state of depletion, it will be seen that she is in the very best possible fighting condition. But a robber-bee will not use its sting for the mere pleasure of killing—that characterizes a villain in human form. There is a risk to run which she is not willing to take in any such way. I mean the risk of losing her sting. The danger of having it torn away is not so great when thrust into the body of another bee; but when the sting has penetrated sufficiently to kill outright, the bee can not withdraw it easily, and I have often seen them crawling about upon the ground in front of the hive dragging the dead bee thereby.

Robbers will often bite and sting just a little a bee that has surrendered, in an effort to make her give up the last mite of honey, which may cause the bee to die in a short time. This, to me, is more plausible than that the captives, so to speak, join the victors in their own hive. When a robber has been seized by a fighting bee, and the two are buzzing so rapidly on the alighting-board or ground in front of the hive that the eye can not determine what is actually being done at the time, the fact that one, and quite often both, of them have their mandibles fastened upon each other at the close, convinces me that both were fighting. Sometimes they cease buzzing, and wrestle on the ground for the advantage. The mandibles hold a death-grip while the two hindmost legs of each are dextrously used in an effort to prevent the other from getting into position to use its sting. The bee whose abdomen is distended the least of the two that are fighting, usually succeeds in this and destroys the other. So soon as the fatal thrust of the sting has been effected, the victorious bee will usually make an effort to break away; but the other will often cling by the mandibles till she is too weak to do this.

As the editorial in question suggests, evidence of a very conclusive nature may be had in cases where the contention is between a colony of Italian and black bees. The untrained eye then can easily separate the robbers from the regular inmates of the hive. But the experienced observer will not often be deceived by the maneuvers of robber-bees. The sweet melody in the hum of a bee engaged in honest pursuits is so different from the loud, shrill notes of robbers that the ear alone may detect them. The bright, cheery color of honesty is soon swept away, being replaced by a dirty, glassy, greased appearance in a short time, when a bee resigns itself to this evil habit. All Italian bees will, when they become aged, assume a darker color than they had when in younger life; but this shade of blackness that comes with waning vitality—vitality spent in honest toil—contrasts largely with the other, though the novice may be wholly unable to determine a robber by its color.

Upon approaching a hive—and I might say any hive, even its own—a robber-bee will hover over the entrance just out of the reach of the guards, very much as a sparrow-hawk will flutter above a certain spot in some grassy, weedy field when watching for a mouse.

There is anything but pleasantness in an apiary where the bees have acquired the habit of robbing. On behalf of the little honey-bee, and the good graces of every reader of this Journal who has the care of bees, I beseech you to use great care not to provoke them to rob. Their mission is a noble one, and they should not be tempted to pursue an ignoble one through the careless exposure of sweets.

I would be pleased to hear from others upon the subject of robber-bees. Scioto Co., Ohio.

Italianizing Bees at the Time of Swarming, Etc.

BY G. M. DOOLITTLE.

QUESTION—I see that you sometimes answer questions in the American Bee Journal, so I send along a couple. Wishing to Italianize my bees I have thought that it might be done by changing queens during the time of swarming. What I mean is this: If I have my queens' wings clipped, and hive the new swarm on the returning plan, can I pick up the old queen while the swarm is out, put an Italian queen in a cage, put the new hive on the old stand, and when the swarm returns let the Italian queen run in with the bees into this new hive, the same as would the old queen did I not change them? Would it be safe to let a strange queen go in with the swarm?

ANSWER.—From an experience of 30 years I have found that the changing of queens, upon the hiving of any swarm of bees, in any place, is liable to "raise a rumpus," and especially is this the case where the swarm is hived upon a new stand; for in this case the least disturbance or dissatisfaction will start the swarm running out and all over the hive, resulting in the larger part of the bees going back home. And the chances of failure are too great for all practical purposes with a single swarm hived in a new location. Where two or more swarms cluster together, if the new queen is placed in a large cage made wholly of wire-cloth except the stopper, so that the bees can get near the queen in large numbers, and the cage hung with the clustered swarm for half an hour or so till they are led to call her "mother," then this large swarm can be hived where you please, and the queen allowed to run in with the swarm, and as a rule all will go well.

The why of this is that where two or more swarms cluster together, they seem to know that strange queens and strange bees must be thrown one with the other, and so are not so disposed to be such sticklers for their own queen, or go back to their brood if they cannot find her with them. But as very few wish to hive two or more swarms together, so that it is possible thus to give a queen, only occasionally, did we so wish to do, this also is hardly practical. The chances are better where the swarm is hived in a new hive on the old stand, or allowed to return as our questioner suggests, and where you have the old queen so you can control her on account of her having a clipped wing; but even then they will sometimes become so dissatisfied that they will hunt up the old hive (unless moved quite a distance from its old stand), and all or nearly all go back to it, or worse still, go into the hives all about the apiary, where in many cases they will all be killed.

If the above large cage is used, placing the cage over the frames before the swarm returns or is hived, and the queen allowed to remain in this cage for a day or two, the chances of success are much increased. The reason for this dissatisfaction coming to the bees, is not so much that they have a strange queen, as that ninety-nine-one-hundredths

of them consider that they have no queen at all, they thinking thus because when the first few bees come in contact with the strange queen they immediately cluster her so that the most of the bees cannot get near enough even to get a scent of her, and so the majority consider themselves queenless, and all know that it is very hard work to make queenless bees stay in a new hive.

The large cage places the queen so that the bees cannot cluster her so but what the main swarm can "catch the scent," and so they do not consider themselves as being without a queen. On the whole, I would not advise the changing of queens during the swarming season in any way or by any plan, for I find it to be much more annoying to try to change a queen with a colony about to swarm, or with those which have lately swarmed, than with any others, or at any other time of the year, and, besides, a failure more often results.

SUPERSEDING CLIPPED QUEENS.

QUESTION.—The other question I wish to ask is whether it is advisable to clip the queen's wings? Are such more liable to be superseded by the bees than those having perfect wings? What has been the experience with such queens.

ANSWER.—In nearly every apiary, where the manager can or is expected to be present during the swarming season, I should advise the clipping of all laying queens in any apiary; in fact, I should as soon think of going back to box-hives as to the managing of an apiary where the queens have their wings so they could fly out with the swarm, where I was working the same for comb honey. It will be noted that I said, "in *nearly* every apiary." Why I said this was, there are a very few localities in the United States, so I am informed, where ants are so thick on the ground, and about the hives, that it would not be safe to allow the queens to be out on the ground for any length of time, else they would be killed by these same ants. But as such a place or places are a rare exception, it would be safe to say that I would always clip the wings of all queens in the apiary as soon as laying.

Some seem to think that queens with clipped wings give far more trouble at swarming-time than do those having their wings; but I cannot think that such have had much experience with clipped queens; for with myself I would rather manage three swarms where the queens are clipped than one whose queen can go with the swarm. Especially is this the case where there are trees in or about the apiary, whose height exceed 15 feet; for where there are small trees near the apiary, some swarms will alight so high that it is often more than they are worth to climb for them, while the clipping of the queen's wings does entirely away with all climbing, if no after-swarms are allowed to issue.

Without going over the whole ground regarding the advantages arising from clipping, it can be summed up thus: Clipping the queen's wings prevent swarms decamping, as a rule; saves the climbing of trees after swarms or the marring of those trees by the cutting of limbs or the bruising of the same; makes it easy to separate the bees where two or more swarms come out in the air together; facilitates the hiving and managing of swarms; and gives the apiarist perfect control of the apiary during the swarming season.

As to these clipped queens being more liable to supersedure, an experience of over 30 years says there is nothing in the claim put forth by some that such is the case, for during that time I have had very many such queens remain the profitable heads of colonies for three, four, and in a few instances five years. My impression is that superseding, as a rule, is caused by failure on the past of the queen as an egg-layer, and not on account of any clipping.

On one occasion in carelessly clipping a queen I cut off one whole leg, and one foot off another, besides nearly all of the four wings; but as far as I could see this made no difference as to the usefulness of that queen, for she did her duty with the best for over four years, and then lost her life by carelessness on my part. Onondaga Co., N. Y.

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Honey and Beeswax—Considered by the Illinois Food Commission.

BY PROF. E. N. EATON, STATE ANALYST.

(Continued from page 345.)

VARIETY OF ADULTERATIONS.

HONEY-DEW.

In 1885, Prof. Wiley called attention to honey collected in pine regions, evidently collected from pine-tree honey-dew. It is now known that such nectar is obtained from secretions of aphides (plant-lice) which infest not alone pine-trees but most vegetation. Honey produced in this manner from flora of any locality is termed "honey-dew honey," and has the following characteristics: Usually dark in color, rank in flavor, and unfit for market. It is distinguished chemically from other honey by a dextro-rotary, or slightly levo-rotary, rotation of polarized light, a low percentage of invert sugar, and a high percentage of ash.

CANE-SUGAR.

Sucrose, or sugar of cane and sugar beets, was, before the advent of glucose, much used in the adulteration of honey. It has not altogether gone out of fashion yet.

There are two objections to its use from the fabricator's standpoint:

First.—Its cost; being nearly as much as California honey.

Second.—Its tendency to crystallize from solution. Cane-sugar does not crystallize readily, however, when mixed with 75 percent of honey.

The use of much less proportion of cane-sugar would hardly pay for mixing. If a smaller quantity than 15 percent is present in honey the sugar was probably fed and elaborated through the organism of the bee.

Another method of adulteration with cane-sugar is to feed the same to bees. Bees readily eat cane-sugar. It is a common and justifiable practice among bee-keepers to feed bees through the fall to winter them, especially if flowers be scarce. Some also feed at other seasons to stimulate the breeding of young bees. Last year a sample of extracted honey was secured from Aurora, said to be produced by Mr. Wheeler, of Plano, which, on analysis, was found to contain about 25 percent cane-sugar. It was reported as containing sucrose, either added intentionally or fed to bees, with probability in favor of former. Eight months afterwards the same honey was re-examined with practically the same result. Lately six samples of honey (three extracted and three comb) were secured directly from the apiary of Mr. Wheeler, and submitted to analysis. All the samples but one were normal in behavior. No. 6 (a comb honey) contained 23 percent cane-sugar. The comb consisting of pure beeswax, I reported the sample as obtained by artificially feeding bees. At this time I did not know the history of the sample. I am now convinced the previous sample was fed rather than mixed. Mr. Wheeler admits having fed sugar, but not for purposes of profit. He claims that it is not profitable to feed cane-sugar, as the bee employs one-half in the manufacture of wax. However, if this be true, and the honey is sold in comb it would seem as if a fair margin of profit is left, allowing six cents per pound for sugar and 14 for comb honey, 20 percent of which is water. Then, too, if old combs are used, little sugar need be diverted from the manufacture of honey. However, only a very small amount of comb honey is made in this way, and but two specimens have been identified by me—one in Minnesota and the other the sample secured from Mr. Wheeler.

INVERT SUGAR.

Invert sugar is produced by splitting up, with the aid of acids or ferments, cane-sugar (sucrose) into equal parts of two other sugars—dextrose and levulose. Although neither of these sugars is as sweet as cane-sugar, a mixture of the two is said to be sweeter. As the bee utilizes this identical chemical reaction to manufacture honey, it will be surmised that the detection of man-made invert sugar in natural honey is a matter of no little difficulty.

That the adulteration of honey with invert sugar has passed from the realm of possibilities to actualities was long ago suspected by the United States Department of Agriculture. I have also noticed samples which, I think, illustrate the fact that the busy bee has no monopoly of industry. However, the low cost of honey, the high price of sugar, and the expense of manufacturing, will, for the time being, safeguard honey from this form of sophistication.

GLUCOSE.

Glucose is produced by the action of dilute sulphuric, oxalic or hydrochloric acid upon starch, in an open or closed vessel, with or without pressure. The conditions of manufacture govern the quality of the syrup. If the boiling be conducted in an open vessel only a part of the starch will be converted into dextrose, the remaining portion forming dextrin. This forms the so-called glucose syrup of trade. If the boiling is conducted in a closed vessel under pressure almost all the starch is converted into dextrose. This product, after treatment and evaporation in vacua, forms the article of commerce known as grape-sugar. The liquid product is alone used as an adulterant of honey.

In Germany potatoes furnish the starch for the manufacture of glucose, but in the United States corn alone is used.

After the starch is converted into "glucose," the acid is destroyed. In case sulphuric or oxalic acid is used, lime is added, forming calcium sulphate (gypsum) or calcium oxalate, and these products being insolvent in the syrup may be separated by filtration. In this country, of late years, hydrochloric acid is generally used in manufacturing glucose, the acid being destroyed by soda-lye, which forms sodium chloride, or common salt, which, while it can not be removed on

account of its solubility, is perfectly harmless, and is not in sufficient quantity to affect the taste of the syrup. Hydrochloric acid is also superior to sulphuric acid, as it is less likely to be contaminated with arsenic. The recent wholesale poisoning in England was attributed to arsenic in glucose used in the manufacture of beer. In the manufacture of glucose England manufacturers use sulphuric acid produced from pyrites, the original source of the arsenic.

Several grades of glucose are marketed, graded by degree of concentration and color. Confectioners' glucose is the best, and almost white in color.

Recently a grape-sugar has been placed upon the market consisting of almost pure dextrose, white in color. The product in a granulated form is being somewhat extensively used as a substitute for cane-sugar in baking and to mix (I am not aware of its being done fraudulently) with cane-sugar. It is a possible adulterant of honey

Glucose is only one-half as sweet as cane-sugar, possesses a characteristic metallic taste, and is miscible in all proportions in water and solutions of other sugars. It does not readily crytallize. It tractably acquires the flavor of the substance with which it is mixed. Its cheapness and general properties make it an excellent adulterant for other sugars. Probably nine-tenths of all adulteration in honey and syrups consist of glucose.

Glucose occurs in Nature in combination with other sugars in many fruits and vegetables. An investigation performed at the instance of the United States Department of Internal Revenue resulted in finding glucose as made in this country not in the least detrimental to health; in brief, a proper food.

It may be mentioned that the glucose of to-day is superior to the product investigated by this Commission. Some grades of glucose, especially that intended for Southern trade, are decolorized and preserved by sodium sulphite, a substance not improving the healthfulness of any food into which it enters.

WATER.

Water is a very cheap adulterant of honey, but in excess is as patent as a label, and generally affects its market value. In case honey is not sufficiently ripened, or if much water is added, honey will ferment, thus destroying its market value except for vinegar manufacture.

HONEY IN THE HOME.

Honey is a necessary luxury. It is within the reach of the poor and not despised as a delicacy by the rich. It is produced largely by home apiarists, even in the cities, as almost 300 bee-keepers reside in the neighborhood of Chicago, some keeping colonies on the tops of tenement buildings, known as roof-apiaries. The bees gather from the gardens, the groves and the grass-lands.

Surely, such an industry should be protected from the unjust competition of the food sophisticator. Such a name, honestly gained and honorably worn, should not be allowed to be used as a cloak to cover inferior products.

And, more than all, the consumer is entitled to receive the article for which he asks and tenders an equivalent in currency.

BEESWAX.

This appears to be one of the products obtained from the nectar and pollen of blossons by their passage through digestive organs in the body of the bee. The bee builds up the cells of its comb from the undigested portion known as wax. The latter is rendered from the contained honey and cast into cakes—the yellow beeswax of the market; or it is cut into thin ribbons and exposed to the bleaching effects of air and sun from 10 to 30 days, and is then known as white beeswax.

Beeswax is ordinarily of a yellow color, semi-transparent, brittle when chewed, and shows a slight taste of balsam. It melts in the neighborhood of 63 degrees C, and its sp. g. at 15 degrees C should be between .956 and .975. Bleaching it in the sunlight raises the melting-point to about 65 degrees C, but affects the density but little. In observing melting points in the capillary, the temperature was observed when capillary action started. This method gave very uniform results.

Beeswax is known to be essentially a mixture of two organic compounds—cerotic acid $\left\{\begin{smallmatrix} C & H & O \\ 27 & 54 & 2 \end{smallmatrix}\right\}$ and myricin (myricyl palmitate) $\left\{\begin{smallmatrix} C & H & OC & H & O \\ 30 & 61 & 16 & 31 & \end{smallmatrix}\right\}$, though smaller quantities of melissic acid $\left\{\begin{smallmatrix} C & H & O \\ 30 & 60 & 2 \end{smallmatrix}\right\}$ and myricyl cerotate $\left\{\begin{smallmatrix} C & H & OC & H & O \\ 30 & 61 & 27 & 54 & 2 \end{smallmatrix}\right\}$ are always present.

The quantitive chemical data most important to obtain in looking for adulterations of beeswax are the total saponification, acid and ester equivalents. These should respectively lie between the limits 90-95, 168-21, and 72-76. If a sample answers all of the above-mentioned requirements, it must be considered commercially pure.

Beeswax has been adulterated with tallow, stearin, paraffin, resin, as well as other waxes.

The following samples came up for analysis: No. 15058 was a section of honey-comb, claimed to be entirely artificial. The honey was found to give perfectly normal chemical data, as also did the wax. The examination of the comb by expert bee-keepers also established its genuineness, the frame showing the bee-cement. The wax, which was pale in color, revealed pollen under the microscope. Melting-point of the wax from various parts of the section, including the foundation, were determined by the capillary method, and gave normal results.

Sample No. 6 was a section of honey-comb. In this the chemical examination revealed the honey to be strongly admixed with sucrose. The organoleptical examination by experts showed the comb foundation to have been capped by bees. This verdict was borne out by the physical and chemical data of the wax, which was light in color.

Samples of pure wax were also obtained in the open market. One from George W. York & Co., direct from producer, was quite dark in color, while one obtained from Richards & Co., Ltd., was of a medium shade of yellow. A sample of comb foundation from The A. I. Root Co. was also subjected to analysis. The latter wax was quite pale in shade. The following are the results in tabular form:

WAX.	M.P.°C.	Sp. gr. 15°-.6° C.	Acid Number.	Ester Number.	Saponification. Number.
No. 15058...	62.7	0.9700	20.02	72.00	92.02
No. 6.....	63.5	0.9509	16.80	76.16	92.96
Richards & Co.	62.0	0.9510	18.76	73.64	92.40
York & Co..	62.5	0.9540	21.70	77.0	98.70
Comb fdn.	62.0	0.9600	18.72	72.0	90.72
Limits for pure wax,	62 to 64	.950 to .975	16.8 to 21.6	72 to 76	.....

The acid and ester number of York & Co.'s samples are slightly high, but as the ratio between them has the normal value, this wax must be considered pure. The melting-points of waxes from two other combs were found to be normal. In these combs the honey also behaved normally.—From Second Annual Report of State Food Commissioner, issued this month (May).

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

CANE SUGAR VS. BEET-SUGAR.

Sad to relate, governments sometimes go into systematic lying for a purpose. Without sufficient evidence I rather "smell" that the cane-sugar versus beet-sugar question is kept from being settled mainly by the British Colonial Office, and that they engaged in that sort of thing for the benefit of British colonies which produce cane-sugar. But certainly there may be one real difference. The two kinds of sugar quite likely go through different processes *in contact with different chemicals*. If so, they can be exactly alike only in the improbable case of getting all the chemicals out of the finished sugar. But does this amount to a practical distinction, or is it infinitesimal and non-practical? I don't claim to know. Page 259.

THE HONEY MARKET.

Large capacity for the reception of advice, eh? Well at this end, or corner, there is small capacity for finding anything better than we already have about the honey market. Might lose the meat we have if we plunge after all we see mirrored in the stream. Page 259.

DEEP FRAMES FOR WINTERING BEES.

It is easy to see why a deeper frame *ought* to winter bees better than the Langstroth; but we must also harken to the facts. I winter bees out-doors, and my Langstroth hives almost always better than the others that are deeper. Some other brethren find so, too, it seems. It just occurs to me that if I use more upward ventilation the reverse would appear. A healthy colony, strong enough and vigorous enough to go into the winter alone, has no difficulty in moving the cluster backward as they eat the honey, *if they have enamel overhead*, and the hive is tilted moderately forward. When warm air cannot go straight up it will compromise by ascending aslant. But the fact that my Langstroth hives are run for comb honey and the others for extracted counts sadly to obscure solutions. Page 260.

LONGEVITY OF WORKER-BEES.

On the longevity of worker-bees the Chicago Convention folks seem not to strike any oil worthy of Spindle-top. 'Spect they mostly kept the ages of their bees no more accurately than certain ladies are accused of keeping theirs. Page 260.

AMOUNT OF HONEY CONSUMED BY BEES.

On page 264 the colony of Adrian Getaz, which eats 200 pounds of honey per year, seems a little too much like the "Heathen Chinee" who had up his sleeve 24 packs. "Going it strong, yet I state but the facts." Let me, in my capacity of champion guesser, guess off a year's liberal rations: Nov. 1 pound; Dec. 1; Jan. 2; Feb. 4; Mar. 5; Apr. 8; May 20; June 30; July 28; Aug. 16; Sept. 10; Oct.

5. Total. 130 pounds. Presumably, for an earlier climate the figures should be readjusted so as to put more of the amount in April and May, and less in later months.

SUCCESS DEPENDS UPON THE QUEEN.

Good sentence from Ada L. Pickard: "A great deal of success for the coming season depends upon the queens we have put into winter quarters." Page 265.

FERTILIZATION OF FRUIT-BLOOM BY BEES.

I do not wonder particularly that Mr. Thaddeus Smith thought my last year's insect remarks a little rough. But such things have to be said; and sometimes they get said to persons who do not deserve them. Sincerely beg pardon; but won't promise to refrain from doing it again—to the very next fellow. *Most people* have talent for not seeing things which is immense—immense almost beyond belief—that is, when the things are such as they never tried to investigate. For instance, an intelligent farmer, my neighbor, once expressed astonishment to see me carrying by a white clover, that is, a red clover so far as species is concerned, with a pure white bloom. Had never seen such a thing. Well, there was a fine one growing not far from his gate that minute; and he had doubtless sat on his mower and mowed down hundreds of them without his mind taking any report from his eyes.

Actual observations are what we want; and I do not wish to discount Mr. Smith's or Mr. High's—any further than to remark that it takes a good many I-didn't-sees to head off an I-did-see.

That Pelee with bees has no better fruit than other islands without bees is pretty strong medicine, so far as it goes.

My observations last year on strawberry bloom were that lots of insects of a number of species visited the bloom. Many honey-bees were among them. Pistillate blooms were visited about as freely as the perfect blooms. If I remember aright, it was for denying that that I chucked Mr. Smith down in the see-nothing class with my neighbor the farmer. (Saw a honey-bee yesterday deliberately draw nectar from a pistillate strawberry bloom.)

Mr. Smith is again far astray in saying that nobody *claims* that bees improve the quality of fruit. Bees cross-fertilize; and it is claimed, and not only claimed but apparently proved up by photographs, that cross-fertilized fruit is sometimes very much larger and better than self-fertilized fruit. Not claimed, I believe, that it *always* shows any difference.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Transferring Bees—Producing Extracted Honey—Introducing Queens.

1. I am a beginner, having bought my bees last fall; they are in Langstroth hives, but the combs are not very correct, and I wish to cut them and make them straight. Please instruct me how, and when.

2. I intend to go in for extracted honey. If I put the top part of the hive on with starters will the bees go to work on them without any coaxing?

3. Would it be safer to introduce a queen in an artificial swarm than in a natural one? ONTARIO.

ANSWERS.—1. First take out any frames whose combs are straight enough to lift out. Then cut the comb enough to get out the rest. It is possible that all the combs are built crosswise in such shape that no frame can be lifted out. In that case take a knife long enough, or a saw, and cut away the attachments to the sides of the hive, then turn the hive upside down and dump out the whole of its contents. You will then fasten the combs in the frames as directed for transferring in your text-book. Before operating you may drum out the bees, so as to have them out of the way, although if the case is not a very bad one it may not be necessary to drum them out.

2. Yes, but they will start sooner in the upper story if you put in it a frame of brood from the lower story, returning it below when the bees have started above.

3. There ought to be no difference, if both are alike as to queenlessness.

Introducing Queens—Hiving a Swarm.

1. How do you think it would work to introduce a queen from a long distance in this way? Place a frame of hatching brood in a wire cage, with the queen thereon, and let her remain for about 48 hours, then release her.

2. There was a swarm of bees that issued from my apiary about two weeks ago. I being away at the time, my friend, who was present, undertook to capture the swarm. The bees had settled in a large oak-tree, and he climbed up near them and sprinkled them with water, then sawed off the limb and proceeded to hive them, but on descending to the ground he found they had taken flight, and were settling on another limb of the same tree. He climbed up the tree again and gave another sprinkling with water, then sawed off the limb and descended to the ground; by this time they were settling on a small limb of a blackjack, to which he had easy access from the ground. He sprinkled them again and quietly sawed off the limb, being careful not to jar them off, and placed them near the hive, or decoy box, which they readily entered. The shutter was then closed, it being perforated with holes to give them air. They were kept in the decoy box about two hours, while we were making preparations to transfer them. Upon examination we found three-fourths of them dead. Can you tell the cause of their death, whether by water or too much heat? We found them very much besmeared with honey. TEXAS.

ANSWERS.—1. The plan is certainly good up to the time of releasing, and then it depends upon circumstances as to the reception. If the old queen had been removed just at the time of putting the new one in the hive, the reception might not be always satisfactory. If I understand you correctly, the whole frame is caged in, in which case there would be no harm in leaving it in the cage for two or three days, making sure of success.

2. Lack of air was the prime trouble, aggravated by the heat, and probably to some extent by the moisture.

Queens Going Out in the Spring.

It is a fact that occasionally the queen-bee goes out in the spring. I distinctly remember having once seen one which alighted on my hand while I was engaged watching the bees of a certain hive bring pollen on a very warm day of April. Another day I saw a queen returning home; I think it was in May, during fruit-bloom. But in neither case did I remark anything abnormal in her majesty, nor did I think of examining the hives to find out whether or not there were two queens in the same hive. Both queens looked very bright and young.

1. What was the reason of their coming out so early?

2. Is this a common occurrence?

3. Should it not discourage the early clipping of queen's wings? For if she is not clipped, she is likely to be lost every time she goes out alone.

4. Would not this account for the fact that several colonies which had a queen in March are found without one in May?

5. And while I am at it, don't you think that it is useless, to say the least, to clip queens' wings in the home apiary? Since the prime swarm which has the old queen, always alights on low branches and near the hive. CANADA.

ANSWERS.—1. I don't know, but if you will allow me the privilege of guessing I should guess that the queens you mention were virgins out on their wedding excursions.

2. It is not a common occurrence so far north as Canada, to see a queen flying in April.

3. I hardly think so. Of course it would be a bad thing to clip a virgin queen in any case, but it is hardly to be supposed that any one with even a very little experience would make such a mistake. I have known a laying queen to fly out in spring occasionally, but always with the intention of deserting the hive, as with an absconding swarm, in which case the advantages and disadvantages of clipped wings would be the same as any swarm. That a laying

queen ever leaves the hive alone I very much doubt, although I do not know positively that such a thing never happened.

4. Yes, if such a thing as a laying queen leaving the hive alone ever happened. But are there not just as many queens missing in May in apiaries where there are no clipped queens, as in those where all the queens are clipped.

5. I don't see why it is not just as necessary in the home apiary as in an out-apiary, for swarms would be likely to alight in the same kind of places in one as in the other. If your prime swarms always alight on low branches and near the hive they are better trained than mine.

A Wire-Cloth Bee-Veil.

I wish to say a good word in favor of a bee-veil which I see recommended in foreign papers. It is made of wire-cloth, *oval*, such as are used to protect dishes of fruit against flies. A piece of cotton-cloth is sewed all around to protect the head and neck of the apiarist. In very hot days this veil is much more cool and comfortable, in my opinion and practice, than any other veil of tulle or silk, and, besides, insures an almost perfect vision. Of course a straw hat can be worn over it just the same.

This oval must be of a size a little larger than one's face (about a foot across), and need not cost more than 25 cents in any place. If kept dry it might last for about 3 or 4 years; but sweating or rain may cause it to rust rapidly.

I wonder why no one seems to know or suspect the comfortableness of this wire-cloth veil. CANADA.

ANSWER.—I have one of the veils you mention, and although I have not used it very much I have hardly thought it as good as other veils without the wire-cloth. Moreover, if I am not mistaken, some one (I think it was M. M. Baldridge) reported having his eyes seriously injured by a wire-cloth veil. If you have used one for considerable time, and it has been entirely satisfactory, it is possible that yours is of a superior quality.

Rendering Comb into Wax—Foul Brood, Etc.

1. I have burr-combs, cappings and some old combs. How can I get good wax from this without buying a solar-extractor?

2 Can you give a reliable method of getting candied honey out of sections so they may be used again?

3. How can I detect foul-brood for sure?

4. What is your plan for treating foul-brood?

5. Do you use Doolittle's plans for building up weak colonies?

6. What is your opinion of most of the dollar queens? A bee-keeper told me he had never seen one whose bees were not very cross.

7. I use Hoffman self-spacing frames. Would you cut burr-combs off, or will it do no good? ILLINOIS.

ANSWERS.—1. Get a steam wax-press, which will get more wax than the solar extractor. But it costs more than the solar. Take an old dripping pan and split open one corner to the bottom. Lay in it your old combs, but not one on top of another. Put the pan in the oven of the cook-stove with the split corner projecting out over a dish set on the floor to catch the wax. Put some thing under the corner which is diagonally under the split corner, so the wax will run down hill to get out.

2. Let the bees clean it out, sprinkling with water as often as needed.

3. Pages have been written upon the subject in back numbers of this journal, and Howard's little book gives full information that could not possibly be given in this department, which has its limitations. The one symptom that may perhaps be relied upon more than any other is the elastic springing back of the matter in the cell when it is drawn out half an inch or more.

4. I never have been so unfortunate as to have any to treat. If I should ever become so unfortunate I should rely upon the McEvoy treatment as given in Howard's book.

5. I seldom have occasion to use it, for as a general rule my bees of their own accord have all the brood they can cover.

6. A dollar queen may be one of the best in the world, and it may be one of the poorest. It depends upon the stock from which it is reared, and the way in which it is reared. I know of no reason why such queens should differ in disposition from others.

7. If you clean off the burr-combs they will in time be replaced; but they will not be so bad as if they had never been cleaned off.

Storing and Caring for Honey.

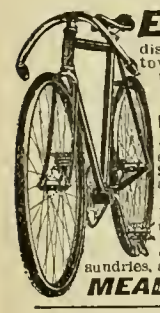
1. In the storing and caring for honey, the greatest pest I have to deal with is the wax-moth. Do you recommend bi-sulphide of carbon as sure death to them? Please give the amount necessary to fumigate properly 100 one-pound boxes?

2. Would it be best, or desirable, to store the same in water-tight tin-lined boxes in which they were fumigated, with the finest window-screen wire over box as cover, which would seemingly be necessary as giving a reasonable amount of air for the proper ripening? Would moths get through this wire?

We small producers of honey living in villages and keeping only a few colonies cannot afford an up-to-date honey-house, for the storage of our honey through the ripening process, therefore I bother you with this (to us) perplexing question. MASSACHUSETTS.

ANSWERS.—1. Three or four tablespoonfuls will probably be sbundant.

2. Now, look here, my good friend, you sit down till I talk with you. You have an exaggerated idea of the requirements for comb honey, and you are proposing to go into an expense that I couldn't possibly stand. Don't think of water-tight, tin-lined boxes. Instead of something air-tight, you need something airy. I don't try to keep the moth away from my comb honey after it is taken from the hive. The only danger from the moth, so far as section honey is concerned, where I live, is from the eggs that are laid before the honey leaves the care of the bees. If the larvæ and the eggs are killed, no fresh eggs are laid in the sections, although there is nothing to hinder moths from coming into the room through cracks and crevices. If you have only 100 sections or so, keep them on an upper shelf of a kitchen cupboard. Perhaps better still, keep them in a hot garret next the roof. After getting a summer's roasting there, they will stand the winter's freezing all right.



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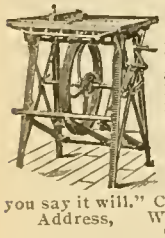

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES, 995 Ruby St., Rockford, Ill.

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Second-Hand Hives.

Nearly as good as new, some of them never used. Made by G. B. Lewis Co. Three styles. Well made and painted. About one-half factory prices. H. H. PORTER,

23A1t R. D. No. 1, [illegible] BARABOO, WIS.

Please mention Bee Journal when writing.

GENERAL ITEMS

Orange-Bloom Crop Good.

The honey crop from orange-bloom is excellent in quantity and quality in this vicinity. The sage crop is doubtful yet.

FRANK MCNAY.

San Bernardino Co., Calif., May 19.

Bee-Keepers Stand the Stings.

MR. EDITOR:—On page 332 is given a cure for stings—five minutes pressure with a half-dollar on the affected part. You suggest that bankers can use 20-dollar gold pieces. That might be a little expensive, but the most expensive part of the performance is that "five minutes." For a dozen stings that would take just an hour. Can a bee-keeper not better afford to stand the pain than to take so much time in the rush of the season?

C. O. WARD.

Country Not What It Was for Bees.

The bees are not gathering any honey now. I am feeding mine. Some are starving, I learn.

We always have a moderate flow during cotton-blooming time, which is from the middle of July until frost.

Our country is not what it once was for bees. All the land is in clutivation, hence scarcely any wild flowers, and the farmers all plant cotton to the exclusion of almost everything else, so we do not count on our bees making more than a living, until after cotton begins to bloom. Horsemint in the pastures generally furnishes some nectar, but it is a failure this year on account of its not coming up for some unaccountable reason this spring.

A. B. COX, M. D.

Fannin Co., Tex., May 16.

Bees in Kansas.

Bees did poorly last winter, but increased rapidly during fruit-bloom. They are at work upon alsike clover. Alfalfa will bloom in about 15 days, but the bees will not be strong enough to benefit by it much.

LESLIE HAZEN.

Nemaha Co., Kans., May 18.

Spraying While in Bloom.

I have had an experience with some of Wm. Stahl's work. I had 35 good colonies in an out-yard 6 miles from here, and the man where I had the bees got one of Stahl's sprayers and followed his directions and sprayed his plum-trees in full bloom, and, of course, the bees got it. Over half of the bees are dead, and also open brood. It is a big loss to me. The man that sprayed feels badly about it; he did not mean to hurt the bees. I was lucky in getting there in time to prevent him from spraying his apple-trees; he was going to do it the next day.

Now, I think Mr. Stahl might put in his directions that spraying trees in full bloom will also poison the bees. There has never been any spraying done here before, and this is something never thought of here.

DANIEL DANIELSEN.

Turner Co., So. Dak., May 5.

The Honey Prospect in California.

Thinking perhaps the readers of the American Bee Journal would be somewhat interested in a report from this dry country, and knowing how eager the honey-buyers are to get exaggerated reports started in the East in regard to the big crops of honey of Southern California, I thought I would give a few facts in regard to the present prospect.

I have 115 colonies in No. 1 condition, which ought to be storing at least a ton of

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

An Italian Queen Free!

We would like to have our regular subscribers (who best know the value of the American Bee Journal) to work for us in getting **NEW** subscribers. We do not ask them to work for us for nothing, but wish to say that we will mail **ONE FINE UNTESTED ITALIAN QUEEN** for sending us **ONE NEW** subscriber for a year, with $1.00; or 2 Queens for sending 2 new subscribers, etc. Remember, this offer is made *only* to those who are now getting the Bee Journal regularly, and whose subscriptions are fully paid up.

In case you cannot secure the new subscribers, we will mail one of these Queens for 75 cts., or 3 or more at 70 cts. each; or the Bee Journal one year and a Queen for $1.50. We expect to be able to send them almost by return mail.

(Please do not get these offers mixed up with our Red Clover Queen offers on another page.)

GEORGE W. YORK & CO.,

144 & 146 Erie Street, - CHICAGO, ILL.

DO YOU READ

—THE—

Modern Farmer

If not, why not? You get it **a whole year for 25 cents.** Your money back, if not satisfied. **Sample Copy Free.** Get two of your farmer friends to take it a year, send us 50 cents, and **get yours free.** Send their names **for samples.** Address,

MODERN FARMER,

9Ctf ST. JOSEPH, MO.

$5 TO START YOU IN BUSINESS We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.

DRAPER PUBLISHING CO., Chicago, Ills.

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SARATOGA EXCURSION

June 5, 6, 8 and 9, at the rate of $19.45 for the round trip. Final return limit July 2, 1902, via Nickel Plate Road. Three daily trains to New York and Boston. City Ticket Office 111 Adams St., Chicago. 'Phone, Central 2057

19—23A1t

PAGE

We Have To Use

High-Carbon, Double Strength Wire in the PAGE in order to maintain the coil spring shape.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing

Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

O. H. HYATT,

13Atf SHENANDOAH, Page Co., IOWA.

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A FEW CENTS

invested at the right time in Watkins' Remedies will not only

SAVE YOU A HUNDRED TIMES

as much in doctors' bills, but also the danger and suffering caused by the tedious delay in the doctor's coming.

WATKINS' REMEDIES

are nothing new. They have stood the test of time, having been on the market for over forty years. They are always effective, always ready to use, no delay, no unnecessary suffering, no expense to speak of. Only prompt, pleasant, permanent relief to man and beast.

BEWARE of Imitations. Watkins' Remedies are sold through our traveling salesmen in the country, and are known by the picture and signature of J. R. Watkins on every wrapper and label as follows:

If our agent has not yet called on you, or if we have no agent in your county, kindly send us your name and address, and we will see that you are promptly supplied.

- - FREE TO ALL - -

Your name and address on a postal card will bring you a copy of Watkins' Home Doctor and Cook Book, a fully illustrated 100 page book, containing weather forecasts, fine cooking recipes and much valuable and interesting information for old and young. The finest book of the kind ever published. Write for it to-day.

The J. R. Watkins Medical Co.

10 Liberty St., WINONA, MINN., U. S. A.

FBW6—

Queens Now Ready to Supply by Return Mail

Stock which cannot be excelled. Each variety bred in separate apiaries, from selected mothers; have proven their qualities as great honey-gatherers.

Golden Italians Have no superior, and few equals. Untested, 75 cents; 6 for $4.00.

Red Clover Queens, which left all records behind in honey-gathering. Untested, $1.00; 6 for $5.00.

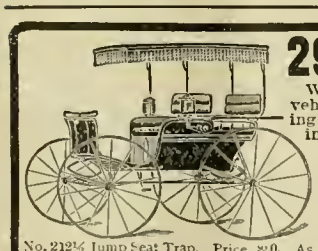
Carniolans —They are so highly recommended, being more gentle than all others. Untested, $1.00.

ROOT'S GOODS AT ROOT'S FACTORY PRICES.

C. H. W. WEBER, 2146-2148 Central Avenue, CINCINNATI, OHIO.

(Successor to Chas. F. Muth and A. Muth.)

29 YEARS SELLING DIRECT.



No. 212¼ Jump Seat Trap. Price, $80. As fine as sells for $40 to $50 more.

We are the largest manufacturers of vehicles and harness in the world selling to consumers, and we have been doing business in this way for 29 years.

WE HAVE NO AGENTS

but ship anywhere for examination guaranteeing safe delivery. You are out nothing if not satisfied. We make 195 styles of vehicles and 65 styles of harness. Our prices represent the cost of material and making, plus one profit. Our large free catalogue shows complete line. Send for it.

No. 152 Top Buggy has ¾ inch Kelly rubber tires and rubber covered steps. Price, $73 00. As good as sells for $10.00 more.

Elkhart Carriage & Harness Manufacturing Co., Elkhart, Ind.

honey every week. But not a pound of nectar is coming in. Honey-plants look fine—bloom in abundance, but nothing in them for the bees. The same condition prevails throughout this part of the country.

One good, heavy rain would save the crop, but it is too late to look for it now.

I think perhaps the middle part of the State will produce some honey, as they got more rain than we did. Very little, if any, surplus will be produced in the southern part.

So, together with foul brood, dry year, and low prices for honey, bee-keepers here are having a pretty hard time of it.

Not a swarm has been cast this spring from my whole apiary.

But in order to show you what can be accomplished here in a good year I will give you a report of what I did with 9 colonies, which were mostly cared for by my son, Lee, who is now only 16 years of age:

The last of October, 1900, I bought 9 colonies in double Simplicity hives. October 1, 1901, I had built them up to 72 good, strong colonies, and had sold just $200 worth of comb honey from them. I increased by rearing queens and dividing.

In Michigan I always got some honey every year that I kept bees, but I have been in the business here eight years, having as high as 240 colonies, and have had only three crops of honey. B. S. TAYLOR.

Riverside Co., Calif., May 14.

Rearing Long-Lived Worker-Bees.

MR. EDITOR:—On page 331, Geo. W. Riker explains what he means by poorest queens, an explanation that is hardly needed, but does not throw any additional light. Will he kindly tell us his plan of procedure by which from a queen "whose workers are short-lived so their colonies are always weak" he succeeds in rearing queens that produce long-lived workers? SUBSCRIBER.

[Mr. Riker is invited to send a satisfactory answer to the above question if he really knows it.—EDITOR.]

A Report—Bees Selecting a Home Before Swarming.

I came through the past winter with 27 colonies in fair condition; they are almost all blacks.

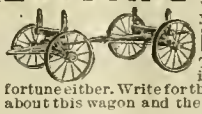
The last winter was a hard one on me, as I was laid up all winter with sciatica, but I am out again, and have "dressed" my bees, or cleaned house for them.

It was the longest and most severe winter for 25 years. I kept a record of the snowfall, as my family and neighbors gave it to me, and I find we had over 150 inches of snow. April and May, until the 15th, was very cool, dry and windy, making a very hard spring on bees as well as the farmer.

I am a farmer, and keep a few colonies of bees for profit. I harvested about 40 pounds per colony the fall of 1901. I sold it in the

ELECTRIC FOR STRENGTH

You are through with wagon worry forever when you buy one of our



HANDY WAGONS.

They carry 4000 lbs. and do it easily, and don't cost a fortune either. Write for the free catalogue. It tells all about this wagon and the famous Electric Wheels.

ELECTRIC WHEEL CO., BOX 16, QUINCY, ILLINOIS.

$19.45 to Saratoga and Return $19.45

via Nickel Plate Road, to leave June 5, 6, 8 and 9, open return limit until June 17, 1902. By depositing ticket with Agent, Terminal Lines, on or before June 17th, and payment fee of 50 cents, an extension until July 2, 1902, may be obtained. City Ticket Office, 111 Adams St., Chicago. 'Phone, Central 2057. 18—23A1t

Please mention Bee Journal when writing advertisers.

Bee-Keepers—Attention!

Do not put your money into New Fangled Bee-Hives, but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

Thousands of Hives, Millions of Sections, ready for **Prompt Shipment.**

G. B. LEWIS CO., Watertown, Wis.

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28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Marshfield Manufacturing Company.

Our specialty is making **SECTIONS,** and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.

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BINGHAM'S PATENT Smokers

24 years the best. Send for Circular.

25Atf T. F. BINGHAM, Farwell, Mich.

BOYS WE WANT WORKERS

Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

Christian Scientists'

meeting in Boston June 15th to 18th. It will be to your advantage to obtain rates applying over the Nickel Plate Road before purchasing elsewhere. Tickets on sale June 12th, 13th and 14th. Final limit returning, July 31st. Call on or address John Y. Calahan, General Agent, 111 Adams St., Chicago.

10—23A2t

Adel Queens and Bees

The standard strain of yellow-banded bees. All select-tested Queens. Each, $1.00. Ready to mail June 1. Cat. free.

HENRY ALLEY,

22A4t WENHAM, MASS.

Please mention Bee Journal when writing.

The "MUTH'S SPECIAL" is a REGULAR Dovetail with a COVER and BOTTOM-BOARD that is ABSOLUTELY WARP-PROOF, therefore the best dovetail Hive on the market. Our illustrated catalog explains it all. You can have one by asking. We sell the finest Supplies at manufacturer's prices.

Standard Bred Queens. None better than our BUCK-EYE STRAIN of 3-Banders and "MUTH'S STRAIN GOLDEN ITALIANS," by return mail. 75c each; 6 for $4.00. Safe arrival guaranteed.

THE FRED W. MUTH CO., Front and Walnut Sts., CINCINNATI, OHIO.

Please mention Bee Journal when writing.

Fancy Glassed Comb Honey

Any bee-keepers in New York or Pennsylvania producing either White Clover or Raspberry Fancy Comb Honey (in glassed sections), will find it to their interest to write to the undersigned at once.

GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

Please Mention the Bee Journal when writing Advertisers *****

home market, the dark at 12½ cents, and the white or basswood honey at 15 cents per pound, cash.

I am also trying the cultivation of ginseng as a side-issue. I have about 1500 plants growing nicely under lattice or paling.

I wish to give my opinion and experience about bees selecting their future home before swarming, as I have read a good deal in the bee-papers in the past on this subject.

I think once in a great while they do select their home before they swarm, but probably not more than one time in a thousand, as only three cases of seeking their future home have come under my immediate notice in 50 years. So I will give you one as a sample:

Some years ago an uncle of mine had a few colonies of bees; late in June they showed signs of going to swarm, by lying outside of the hive. One Friday he was out in the woods above the house and found bees working nicely in a small white-oak tree, going in a knot-hole up about 40 feet. He bragged a good deal about his "find." On the following Sunday several of the neighbors and I were there for dinner. Just after dinner one colony swarmed; everybody present got a bell, tin pan or something that would rattle, and joined the band, but all to no purpose, they wouldn't or didn't settle at all. So after circling in the air awhile they struck for the woods, all the men and boys after them. They went up where uncle had found his bee-tree, and plugged right in. Great excitement now prevailed, all thinking there would be a big bee-fight, so ax and hatchets were hastily got to cut the bee-tree and try to divide the bees and save them. When the tree fell and was cut open where the bees were, all were surprised again, as there was not a speck of comb built or anything done in the line of work, except the hollow seemed to have been cleaned out nicely. We got the bees in an old box, took them back home that evening, and all seemed satisfied and contented.

I know of two other cases like this one; it proves to me that once in a great while they do look out for their future home.

Do bees gather honey or pollen from white-oak bloom at this time, May 18? Bees seem to be bringing in lots of pollen and some honey. The white-oak is in full bloom.

IRA SHOCKEY.

Randolph Co., W. Va., May 18.

Hard Country for Wintering.

This is a hard country in which to winter bees, for the mild temperature of the Willamette Valley causes them to eat a good deal in winter.

Many bees died since last fall, partly owing to disease, I think. CLARK S. FUGE.

Clackamas Co., Oreg., May 13.

A "Greenhorn's" Experience.

I can't remember when I was not fond of honey and bees. A friend gave me a colony of hybrids, June 1, 1900, in a home-made hive. I took from them in the fall 18 pounds of honey. They wintered well out-doors, and cast a swarm June 3, and another June 13, 1901. These I hived in eight-frame hives. I gave the first new swarm, which had the old queen, a super, and later I tiered them up, that is, I gave them another hive-body.

I kept watch of the bees this spring and found the combs in No. 1 crossed so I could not take out the frames, and there were plenty of wax-moths. The queen was laying in No. 2, and the cluster well covered the bottom-board. May 1 I set No. 1 on a new stand, after turning the hive bottom side up and taking out the frames and cutting out the comb and fastening it in new Hoffman frames. In transferring I got rid of some of the moths, and also got straight combs.

On May 12 I received a premium queen, and placed the cage in the hive. In 48 hours I put the queen under a screen-cloth cage on unsealed honey, and cut out five queen-cells. After 24 hours I liberated her, and to-day I found a nice lot of eggs and busy, contented bees.

To-day, May 18, No. 2 gave a large swarm. My other colonies are working in supers, and

I expect they will swarm soon. I have five good colonies now; a year ago I had one.

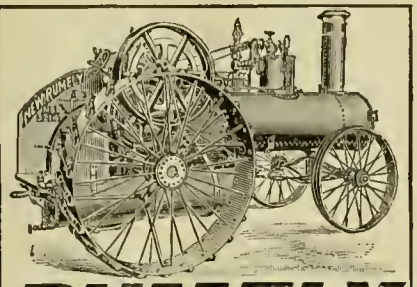
If all the bee-keepers knew how much better foundation is fastened by electricity they would never use a roller. If you would appreciate it I can describe how I do it with an outfit that anybody can use.

There is nothing better than the American Bee Journal for a beginner.

F. H. DRAKE.

Worcester Co., Mass., May 18.

[Yes, we would be pleased to publish your way of fastening comb foundation in brood-frames.—EDITOR.]



RUMELY

Rear Gear to the Fore.

This Traction Engine should receive the attention of all threshers. Investigate it. Modern in every part. Has all latest devices and appliances. Perfect in traction, unsurpassed in generating and supplying power. A full line of general and special purpose engines. Separators should interest you. **The New Rumely** is what you want. It threshes it all, cleans it all, saves it all. Catalog sent free.

M. RUMELY CO., La Porte, Ind.

To Boston and Return at One Fare

for the round-trip via Nickel Plate Road, for Christian Scientists' meeting in June. Tickets on sale June 12th to 14th, inclusive, with extended return limit of July 31st. Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for detailed information.

9—23A2t

DAIRYMEN ARE DELIGHTED

to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.

DRAPER PUBLISHING CO., Chicago, Ills.

Please mention Bee Journal when writing.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

33Atf Please mention the Bee Journal.

3-Frame Nuclei For Sale.

We have arranged with a bee-keeper located in Kankakee Co., Ill., (within 12 miles of Kankakee), to fill orders for Nuclei of bees. All are to be first-class, and most of the bees show Italian markings. The queens in the Nuclei will be Italian, of this year's rearing.

The Nuclei are 3-frame Langstroth, in light shipping-boxes. Prices: 1 for $3.00; 5 or more at $2.75 each.

All are f.o.b. shipping-point, and will be sent by express, a postal card notice being mailed to each purchaser a day or two before shipping the bees.

GEORGE W. YORK & CO.,

144 & 146 Erie St., - CHICAGO, ILL.

Please mention Bee Journal when writing Advertisers.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.

144 & 146 Erie Street, - CHICAGO, ILL.

Queens you should Have

Does blood tell in other stock? Give your bees a chance. Stock used for breeding the queens offered—not from a sport, but my pick out of an apiary giving last season an average yield as follows:

Honey-Gathering.

102 lbs. extracted and 68 lbs. comb honey per colony besides increase and stores for winter.

Quality of Comb-Honey Produced.

"Man! It would dazzle you."—Wm. Envoy, Ontario Government Inspector of Apiaries.

Wintering Qualities.

Up to the present (January 30) I never found these bees to show the least indication of unrest—always perfectly quiet. They are wintering perfectly.—Frank T. Adams, Brantford, Canada.

General Commendation.

Out of those queens you sent me I have produced the best race or strain of bees I ever owned. Remember that is saying a lot, as I have tried every breed imported in this country. The bees winter better, build up, and stand cold chilly winds in spring better, and are more suitable than any bees I ever owned. For the season they gave me about double the honey the pure Italians did, and more increase. Glad you are going into the queen-business, and are going to join the ranks again. We are much in want of a few men like you. C. W. Post, Ex-president Ontario Bee-keepers' Association (owns 365 colonies).

S. T. Pettit, Canada's most successful comb-honey producer and bee-keeper, says: "The blood in my apiary is largely the progeny of queens sent by you, and they are grand bees."

Prices of Queens.

They are duly free to the United States. Tested, $2.00 each; $10.00 for 6; $18.00 per dozen. Untested until July 1, $1.25 each; $7.00 for 6; or $12.00 per dozen. Same after July 1st, $1.00 each; $5.50 for 6; or $10.00 per dozen. Larger quantities, prices on application. Postage stamps taken for fractions of a dollar. To be fair to every one, no selected tested queens are offered. Every one has the same chance. The above queens are bred from a careful selection of Italians and Carniolans. Pure Italian and Carniolan queens same price. Price of full colonies on application. Orders booked as received, and filled as quickly as possible. Order early.

Address, **R. F. HOLTERMANN,**

Bow Park Co., Limited, Brantford, Ont., Canada

9D8t Please mention the Bee Journal.

Our Choice for honey-gatherers is a cross between the Italian and Carniolan. A limited number of Nuclei and and full colonies for sale. Healthy, vigorous, and excellent workers. Address,

20A4t **E. S. ROE, CLARISSA, TODD CO., MINN.**

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,

330 Market Street, - SAN FRANCISCO, CAL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, May 19.—The market is without special change from that prevailing early in the month, with perhaps less doing than was noticed at that time. White comb honey sells in a small way at 14@15c for fancy, if white clover and basswood; other kinds at 12@13c; ambers of all grades and flavors are dull at 8@10c. Extracted unusually quiet with white ranging from 5½@6½c; ambers, 5@5½c; dark, 4@5c. Beeswax still active at 32c.

R. A. BURNETT & CO.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.

THE FRED W. MUTH CO.

ALBANY, N.Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6½c. Beeswax, good demand, 30@31c.

H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c: Florida honey, in barrels, 6@6½c. BLAKE, SCOTT & LEE.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

CINCINNATI, May 8.—As the warm weather set in, the demand for comb honey is as good as over. There are no settled prices; for whatever is left, prices are made to force sales. Extracted honey is in fair demand and finds steady sales. Amber is sold in barrel lots for 5@5½c; water-white alfalfa, sells from 6@6½c, and white clover brings from 6½@7c. Beeswax scarce and brings 30@31c. C. H. W. WEBER.

NEW YORK, May 19.—There is a limited demand for comb honey and prices range as follows: Fancy white, 14c; No. 1, white, 13c; amber, 11@12c; no buckwheat or dark on the market and no more demand for any. Market on extracted remains very inactive. Plenty of supply with only fair demand. We quote: white, 5½@5¾c; light amber, 5@5¼c; southern, in barrels, 50@55c gallon. Beeswax firm at from 30@32c pound, according to quality.

HILDRETH & SEGELKEN.

SAN FRANCISCO, May 14.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Spot stocks are not of heavy volume, but there is more offering than can be accommodated with prompt custom at full current rates. Business now doing is mostly of a light jobbing character on local account.

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Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

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BEE-KEEPERS,
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$19.00 to Boston and Return $19.00
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8—23A2t

—ITALIAN—
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Having been 28 years rearing Queens for the trade, on the best known plans, will continue to rear the best during 1902.
PRICES:
1 Untested Queen $1.00
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1 Select Tested Queen ... 1.50
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1-Comb Nucleus, no queen 1.40
Write for catalog, giving prices of Comb Foundation and prices of Queens by half doz. and doz. lots.
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If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.25 to
Prof. A. J. Cook, Claremont, Cal.,
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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.
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Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.
Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.
Bee-Keepers' Supplies OF ALL KINDS *****
Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.
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Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.
THE A. I. ROOT COMPANY, Medina, Ohio.
GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market. J. B. MASON,
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.
M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.
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AMERICAN BEE JOURNAL

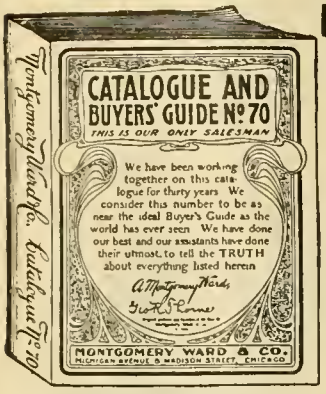
GEORGE W. YORK, Editor.

CHICAGO, ILL., JUNE 12, 1902.

FORTY-SECOND YEAR
No. 24.

WEEKLY

APIARY OF SAMUEL P. MICHAEL, OF BUREAU CO., ILL.
(See page 372.)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CATALOGUE AND BUYERS' GUIDE No. 70
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MONTGOMERY WARD & CO.
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THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

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SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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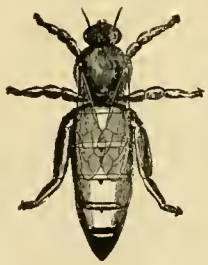
Please mention Bee Journal when writing advertisers.



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FOR 1902 FREE!

Long-Tongue Variety—Warranted Purely Mated

We have arranged with the queen-breeder who furnished Long-Tongue Red Clover Queen for us during the season of 1901, to fill our orders this season. Although fully 95 pereent of the untested queens he sent out were purely mated, this season all that he mails for us will be **warranted** purely mated.

We want every one of our present subseribers to have one or more of these money-maker Queens. We have received most exeellent reports from the queens we supplied last season. And this year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest aud best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direet from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

Orders for these fine, "long-reach" Warranted Queens will be filled in rotation—"first come first served"—beginning as early in June as possible. It is expeeted that orders ean be filled quite promptly (even better than the past season), as a much larger number of queen-rearing nuelei will be run. (But never remove the old queen from the colony until you have reeeived the new one, no matter from whom you order a queen).

All Queens will he guaranteed to arrive in good eondition, and will be elipped, unless otherwise ordered.

A Warranted Queen for Sending us only TWO NEW YEARLY SUBSCRIBERS.

In order that every one of our subseribers who wants one of these Warranted Queens this season ean easily earn it, we will book your order as follows:

No. 1.—For sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00, we will mail you ONE of these queens free.

No. 2.—Or, for sending us *one new* subseription at $1.00, and 30 eents more ($1.30), we will mail you a queen, and the Bee Journal for one year to the new subscriber.

No. 3.—Or, seud us $1.60 and we will send to YOU the Bee Journal for one year, and also a queen.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subseriptions. Remember, the sooner you get in your order the earlier you will get your Queen. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JUNE 12, 1902. No. 24.

Editorial Comments.

Nominating National Candidates for the offices to be filled at each annual election seems to be a rather difficult thing to accomplish. Heretofore there has been no attempt made in that line.

In the American Bee Journal for Oct. 31, 1901, we had this editorial paragraph:

It might not be a bad idea for each annual convention to nominate three candidates for General Manager, and nine candidates to succeed the three whose terms expire with the following December. Then these nominations could be announced to the members when sending out the voting blanks. Of course, any others could be voted for if preferred, but very likely one of the three would be elected General Manager, and three of the nine would be elected Directors.

The words, "three whose terms expire," in the above, refers to the Board of Directors.

In the May Bee-Keepers' Review, Editor Hutchinson approves of our suggestion, with the slight exception that he would have *two* nominated instead of three, for each office. We have no objection to that.

The more we think of it, the more we feel assured that the plan we proposed would work out all right. It could very easily be tried at Denver, if those present so decided.

But there are one or two things that should be considered when making the nominations for Directors. It will be noted that at least one State has three members on the Board, while the whole South has not a single representative. Of course, that is manifestly unfair, though no one can be blamed for the present condition of affairs. It has simply happened so. Illinois has two members on the Board. One would be sufficient. Dr. Miller would be pleased to be omitted at any time. He also fully believes in passing the honors of office around. Probably no set of men should ever have a monopoly of the offices of the Association. It might be well, perhaps, to make an exception in the General Manager's office, and we could easily conceive of the necessity of an occasional change even there as well.

We would be pleased to have suggestions on this subject from members of the Association. As Mr. Hutchinson says, "Let us discuss it in advance of the meeting" at Denver. If the plan we proposed meets with your approval, why not say so? If you have something better, all right, send it on.

Prevention of Swarming is accomplished by some by simply anticipating the desire of the bees for an empty home to start in—taking away from them all the brood. As to the details of the after management, plans differ. Here is one plan that some may think worth trying:

Have the hives in pairs, the two hives of each pair not more than an inch or so apart. As late in the season as may be without running the risk of swarming, take from one of the hives of a pair half of its brood with adhering bees and queen, and put them in an empty hive on a new stand. Then into an empty hive provided with starters or full sheets of foundation brush all the bees of the other colony, queen and all. Brush into the same hive all the bees remaining in the other hive. Take all these frames of brood from both hives and put them with the queen that was put on the new stand. The hive into which the bees were brushed is to be placed centrally where the pair previously stood. The supers that were on each hive may be put on the new stand where the brood is, and in three days returned to the old stand.

There is now on the old stand a rousing colony, made up of the flying force of both colonies and the greater part of the young bees. On the new stand are two stories of brood rapidly hatching out, and this will give extracted honey, while the colony on the old stand may be worked for either comb or extracted.

This plan is not given in the full assurance that it will be the best in all cases. If the colonies operated on are very strong, there is a possibility, at least according to the views of some, that there will be too many bees in the new hive for best results. If a cold night should come, there is a bare possibility that there may not be enough bees with the brood to care for it properly.

Are Drones from a Mismated Queen Pure?—When Dzierzon gave to the world the doctrine of parthenogenesis, he announced that the drone-eggs being unfecundated, the drone progeny of a queen would be of exactly the same blood as the mother, without reference to what drone that mother might have met. The opinion, however, has prevailed with some that the blood of a drone is materially affected by the mating of his mother. The matter is a very practical one, and withal very important. Therefore, the article on telegony in this number will be read with interest. It is probably the fullest presentation of the subject that has ever found its way into bee-literature. Although Prof. Cook is not undecided as to his own view on the subject, he seems to give a fair hearing to both sides, leaving the reader to form his own conclusions.

A Button or Badge for the National.—This seems to be one of the questions for the Board of Directors to settle, as noted on page 28 of the Buffalo Convention Report pamphlet, where it says:

Mr. York—I move that the matter of selecting a badge be referred to the Board of Directors.

The motion was seconded by Dr. Mason, and carried.

Editor Hutchinson takes up this subject in the May Bee-Keepers' Review, and suggests what has, we believe, been mentioned by Mr. N. E. France and others, viz.: a button; and has this to say concerning it:

The button should be something that we would be proud to wear, simply for the sake of its appearance, aside from its emblematical nature. It should be handsome, but not gaudy. I would not have the button large enough to remind one of a sign-board. I think that three-fourths of an inch would be plenty large enough. Instead of having it round, I would have it hexagonal. As an emblem, I think of nothing more suitable than a bee on a clover head. If the body of the button were drab, the clover could be white, the bee leather-colored with hands of gold—*genuine gilt*. As a motto, above the bee and clover, I would suggest, "By Industry We Thrive." At the bottom I would have the initials, "N. B.-K. A."

We think the button idea is all right, but whether the Association should go to the expense indicated by Mr. Hutchinson's exquisite button is a question.

Then, again, the Denver Association may not wish to be deprived of the pleasure of furnishing elaborate buttons or badges, as did the Chicago Association in 1900, when the National met here. We understand that Denver is going to outshine Chicago so far that even the distance between the two cities may be greater than ever, after next September! And, so, if they contemplate furnishing a silver or gold badge—worth probably a dollar or two—don't do anything to head it off. Those who attend that convention will want something like that to keep it green in their memories. And yet, we believe the Colorado people are planning to do a lot of things for, and with, those who attend that convention that will make it the most memorable meeting of all. May they succeed.

Cure for Bee-Paralysis.—"Oil of napthol, one teaspoonful fed with honey." is recommended by the Australasian Bee-Keeper.

Apiarian Exhibit at Nebraska Fair.—Hon. E. Whitcomb, the superintendent of the apiarian exhibit at the Nebraska State Fair and Exposition this year, has sent us a copy of the premium list, which, we believe, is the most liberal of all such lists now in this country, being over $300. The following is a copy of the same:

LOT 1—BEES AND HONEY—OPEN TO THE WORLD.

	1st Pre.	2d Pre.	3d Pre.
Best comb basswood or white-clover honey, not less than 20 pounds, cased and in single-comb sections weighing not more than 2 pounds each	$5 00	$3 00	$2 00
Alfalfa honey, the same amount and cased as above.	5 00	3 00	2 00
Sweet clover honey, same amount and cased as above	5 00	3 00	2 00
Fall honey, the same amount and cased as above	5 00	3 00	2 00
20 pounds extracted white clover or basswood honey.	5 00	3 00	2 00
20 pounds extracted alfalfa honey	5 00	3 00	2 00
The above to have been extracted previous to July 1.			
20 pounds heartsease fall honey, to have been stored after Aug. 1	5 00	3 00	2 00
20 pounds extracted alfalfa fall honey, to have been stored after Aug. 1	5 00	3 00	2 00
20 pounds extracted sweet clover fall honey, to have been extracted after Aug. 1	5 00	3 00	2 00
Largest display by any one, including bees, extracted and comb honey	15 00	10 00	5 00
Most artistic designs in beeswax	7 00	5 00	3 00
Exhibit of apiarian supplies and implements	15 00	10 00	5 00
Display of honey in marketable shape, products of exhibitor's own apiary	15 00	10 00	5 00
Display of honey-candy, honey-sugar, and sweets, by any one, in which honey is made to fill the place of sugar	3 00	2 00	1 00
Honey-vinegar, not less than ½ gallon	3 00	2 00	1 00
Display of bees and queens in observatory hives, and not allowed to fly, not less than five cages	10 00	5 00	3 00
Exhibition of extracting honey, to be exhibited on the grounds, under the direction of the Superintendent, not later than Thursday of the Fair	3 00	2 00	1 00
Honey-extractor, test to be made by actual extracting upon the ground	3 00	2 00	1 00
All-purpose single-wall hive	3 00	2 00	1 00
All-purpose chaff hive	2 00	1 00	50
Bee-smoker	1 00	50	25
The following are confined to exhibitors in Nebraska alone:			
Best display of apiarian implements and supplies, including comb foundation drawn, and bees in cages, not less than five cages	10 00	5 00	3 00
Report of surplus honey stored by any colony of bees during the year 1901, the amount of stores, manner of building up, handling, kind of hive used, kind and quality stored, to be verified by owner. Entries to conform with other entries of this class, and report, with verification, to be filed with Superintendent not later than noon on Thursday of the Fair	5 00	3 00	2 00

LOT 2—COUNTY COLLECTIVE EXHIBITS.

The county in Nebraska showing the best collection of honey of all kinds, any or all ages, shapes and conditions	$20 00	$10 00	$5 00

The exhibits must have been produced in the county exhibiting, and the product of not less than five apiaries. Individuals composing this collective exhibit may compete for any or all minor premiums offered.

All competitors on honey must produce their own honey.

Points for the judgment of honey: Comb Honey—*First*, perfection of capping; *Second*, evenness of surface; *Third*, whiteness of capping; *Fourth*, general appearance to marketability. Extracted Honey—*First*, cleanliness; *Second*, clearness; *Third*, flavor.

Mr. Whitcomb has prepared the following announcement for bee-keepers:

BROTHER BEE-KEEPERS:—Your attention is called to the greatly increased premiums offered this year in Class K., Bees, Honey, and Apiary Goods. The officers of the State Agricultural Society have always responded to the wants of the bee-keepers of the State, and we are able, through them, this year, to present you a list of premiums in this class which can not be equaled in any State in the Union.

In return for these liberal premiums offered they have a right to expect from the bee-keepers and supply dealers such an exhibit as has never before been seen in this or any other State. Already about one-half of the available space in the Honey and Bee House has been asked for, but it is desirable to fill this building so full from cellar to garret, of the nice things produced in the apiary and manufactory, that it will be a palace of sweets, bees and supplies.

The superintendent of this class will be on the ground this year a day earlier than usual, fully prepared to make your stay at the Fair and the Bee and Honey House more pleasant and profitable than ever before.

The annual meeting of the Nebraska Bee-Keepers' Association will be held on Tuesday and Wednesday evenings of the Fair, in the Apiary Building.

Respectfully,
E. WHITCOMB, *Supt.*

Surely, such an array of premiums should call out a large number of exhibits. The Fair will be held at Lincoln, Aug. 29 to Sept. 5. For further information, as well as copy of the complete premium list, address, Robert W. Furnas, Secretary of the Nebraska State Board of Agriculture, Brownville, Nebr.

Only One Night to Denver.—By going over the Chicago & North-Western and Union Pacific railways, you will need to spend only one night on the road from Chicago to Denver. There is a daily train leaving Chicago at 10 a.m. on the C. & N. W., and leaving Omaha, Nebr., over the Union Pacific at 11:30 p.m. of the same day. This train arrives in Denver at 2 p.m. the following day. That is, by starting from Chicago at 10 a.m. on Monday, Sept. 1, you will arrive in Denver at 2 p.m. the next day, or Tuesday, Sept. 2, in ample time for the first session of the National Bee-Keepers' convention, which begins that evening.

Now as to rates: The round-trip price at that time from Chicago to Denver will be $25. By going over the route mentioned, the regular sleeping-car rate would be only $3.00, because of being only one night on the way.

There is also another saving by taking the C. & N. W. and Union Pacific. There is a Pullman tourist car on this train from Omaha, in which the charge for a double berth is only $1.50 to Denver. As no sleeping-car accommodations are required on this train east of Omaha, it will be seen that one can go comfortably by this route for a very small sum.

We may say that Dr. C. C. Miller and the Editor of the American Bee Journal expect to go over the route indicated, starting at 10 a.m. on Monday, Sept. 1. Who will join us? We would like to publish the names of all who will do so. It would be pleasant to have a large number go together.

The Weekly Budget.

"DER PAVILLON FAEHIGE DADANT-ALBERTI-BIENENKASTEN" is the somewhat involved name of a German book by A. Straeuli, which contains an authorized translation of G. M. Doolittle's "Scientific Queen-Rearing."

AN APIARY OF SIMON P. MICHAEL, of Bureau Co., Ill., appears on the first page this week. It contained 60 colonies, spring count, in 1901, which were increased to 80 colonies, and 3000 pounds of No. 1 comb honey taken, with plenty left for winter stores. The picture was made a few days before the bees were put into the cellar, last fall.

MR. LOUIS CHARLES DADANT, son of C. P. Dadant (and grandson of Father Charles Dadant), is a member of the graduating class of 1902 of the University of Illinois, at Urbana. He kindly sent us an invitation to be present at the Thirty-First Annual Commencement, which occurred June 7 to 11, which we should have been pleased to accept could we have gotten away, but in June it is utterly impossible for us to leave our office for even a day, unless absolutely necessary.

We wish "Louis" every deserved success in life, which he will doubtless have, as he has done the right thing in making a careful preparation in advance.

THE APIARY OF PHILIP WEISNER, of Maricopa Co., Ariz.—or at least part of it—is shown on next page. The whole apiary numbers about 300 colonies, and 86 colonies of them are placed under this brush shed.

In that hot climate bees require shade, and the most practical and satisfactory way is to construct brush sheds. These are made wide enough for two rows of hives, allowing ample space for passage-way with the wheelbarrow, etc., between the two rows.

The Salt River Valley, of Arizona, is a most excellent bee-country. Where the land can be irrigated one continuous field of beautiful, and and always green, alfalfa can be seen; and even the desert, where Nature stands unmolested, are flowers and trees, which, when in bloom, are covered with bees.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 358.)

EXTRACTING COLD HONEY—HIVE-COVERS.

"How can one get honey that is stiff out of extracting frames in cold weather without spoiling the frames and combs?"

Dr. Miller—By warming it.

"Is there to be any improvment in the 1902 hive-cover?"

Mr. Horstmann—There is a cover on the table there now which I think is a good improvement. That will not warp; it has been in use for one summer; it answers as a shade-board as well as a cover, and it improves the appearance of the hive greatly. It gives the top a chance to expand without loosening a nail or cracking the board; it can be used for winter as well as summer. Anybody can see the advantage of it, if he will examine it, without any farther comment on my part.

REMOVING HONEY FROM BROOD-CHAMBER TO SUPER.

"Under what conditions can you get bees to remove honey from the brood-chamber up into the supers besides one of young queen? Or, in other words, can you get them to do it with the old queen? If so, how?"

Dr. Miller—Several years ago Mr. Baldridge advised taking a three-tined fork, and tie the tines together with wire, if they are not of the right distance apart. Make it so the three tines will strike about the center of the cells of honey, and scratch the combs of sealed honey with that. It will make the bees empty it. Another way to get the thing done is to take a wire hair-brush, and just, tap the comb all over, so as practically to open all the cells, and then the bees would be tempted to empty that. If the queen is so old that she is not doing any work at laying, that will make no difference, but if she is a queen two or three years old, the likelihood will be, if the honey is coming in plentiful or not, that will help to take it up.

Mr. Dadant—There was invented at one time what was called "invertible hives." You all know that when bees put honey in the brood-chamber, they put it at the top; when you invert the hive the honey is right at the bottom. and right at the entrance, and the bees must carry that honey away because it is where the robbers can get it, and they carry it in the super. That is the only advantage of invertible hives; and that is why some people use them.

Mr. Riker—To have the bees carry the honey above, I just take an uncapping-knife and slice the cappings, and the bees carry the honey up.

REPORTS OF HONEY SCARCE AND HIGH PRICES.

"Do bee-keepers benefit by giving the impression that honey is scarce and will be high-priced?"

Mr. York—It seems to me some one suggested a while ago it was a good idea to give out the impression that there would be lots of honey, and prices would be low, so that everybody could afford to eat honey.

Dr. Miller—I believe, Mr. President, it would be well to leave that for the American Bee Journal.

R. C. Aikin, of Colorado, Vice-President of National Bee-Keepers's Association, for 1901, who had been invited to contribute something on the production of extracted honey, kindly sent this paper, which was read by Secretary Moore:

KINKS IN EXTRACTED-HONEY PRODUCTION.

The apiarist that can take out or avoid all the hard kinks in extracted-honey production (or in comb, either) must be expert indeed. He who thinks that honey-production on modern lines is without kinks, will find it one of kinkiest businesses he ever undertook. As time passes, and we get more experience, we find ourselves able to straighten out some of the knotty kinks, and I suppose that what is

PART OF APIARY OF PHILIP WEISNER, OF MARICOPA CO., ARIZ.

(See opposite page)

wanted of me in this paper is, to tell some of the short, straight roads that avoid the kinks.

I will tell you first about the hive. There, don't get scared at the hive-question ghost. There is a difference between producing comb and extracted honey. Any hive that will succeed in working for comb will succeed for extracted, but when plenty of storage-room is given in ready-made combs in a super, the colony will freely begin storing there, and once a force of bees is in the extracting-super there is a great relief in the brood-nest, both of honey and bees; the queen has much laying-room, her work-shop is cooler, and less swarming results. As long as the apiarist keeps the honey out of the way so that there is never any lack of room, there will surely result a much greater amount of brood than will result in a comb-honey colony. As to whether that brood is desirable, depends upon whether the flow is long or short; whether it is to be followed by another flow wherein the brood being reared may become fielders to gather it; or whether it is late in the fall and you want those bees for winter stock. Even then there is a difference whether you winter the bees in the cellar or outdoors. This general rule applies: Extracted-honey colonies will not provision the brood-nest as does a comb-honey colony; and, going into winter with more bees and less honey, calls for a larger brood-nest for extracted-honey colonies than for comb.

One of the very curly places is getting the bees to take at once and so freely to the supers that the queen, having plenty of room, there will be little or no disposition to swarm. You can make that rough place to run much smoother by putting a little brood in the super, and also by having *two* supers, and the brood in the uppermost. With divisible brood-chambers that can be so nicely arranged by putting a dry set of combs on the bottom-board, on this one set half of the brood-chamber, putting the other half above the super for a little time, more or less, according to conditions.

No, no, never think of getting along without a queen-excluder when working for extraeted honey. I have tried both with and without, and I must say that a lot of old zinc that leaks queens every now and then is almost more than I can stand, let alone being entirely without excluders. This is a very kinky place, and for the sake of common decency and cleanliness, for the best grade of honey, and for speed and easy manipulation, use queen-excluders.

Extracted honey is so low in price that there must be economy or no profit. Many, when taking off combs to extract, pull out a comb at a time and shake and brush off the bees. That is all right with a very few colonies, but when it comes to making an extensive practice of that it is too puttering. I take off extracting-supers without moving a comb separately, by smoking down most of the bees, then at once removing the entire super at one lift. If no excluder is used, I would in this way get much brood with the supers, sometimes a queen, too, and one of the crankiest kinks would be the fact that the bees would not leave that brood, and when I go to pick up the super I would have a fight at once. Set a super on the ground that is free from brood, and the bees soon leave it; but if it contains brood they stay, and after being quiet a few minutes will fight as if at home.

Smooth out the kinks by having a small bee-tight room at each apiary, the windows well screened—better double-

screens, and double or treble cone escapes on the windows, all made with a view to keeping bees out and facilitating the escape of those that by any means are in. If you are taking off supers when there is no robbing, just set them about the yard as open and airy as possible, and they are soon free; but if robbers, put into the shanty, but also as light and airy as possible, and let the bees go out through the escapes. If brood is in a super, only brushing will get the bees out.

Do not be afraid to have two supers to the colony; it pays to have plenty of room, saves having such a rush in extracting when the flow is on and you are so very busy you don't have time to eat. You can so much more easily and *quickly* drive bees down from a top super into a second one, the second being put under the full one; but have the second one on long enough so it will be licked dry and be occupied—you can not successfully smoke down into a wet, sticky super, and not very well through an excluder. Extra supers cost less than hired help—the hired man takes his pay and goes, the supers are paid for and you still have them as so much capital and wealth. If it is a question of hired help or more supers, it is *big* economy to get the supers.

Have your extractor and all the machinery at home. You have to go to and from the out-yards in any case, and also have to transport the honey, just haul it home in those extra supers, it is no more hauling to move the supers than to move the machinery and cans or tanks, and your extracting machinery being all set and arranged at home to the best advantage, makes it a pleasure to handle the product.

Doing the extracting at home, let the honey remain in the settling tank as long as the tank is not too full, or as long as the honey does not candy, and you have a gilt-edged product. Also, let the honey remain on the hive until all or nearly all is sealed; it is just as easy to uncap a solid sealed comb as one half sealed, and the wax from the cappings is as profitable as the honey, or more so.

Stop the old, fussy method of educating your consumers to expect honey always liquid. The same amount of effort and energy spent in educating to use (or buy) candied honey will accomplish the desired end, and save an immense amount of trouble and expense. Just imagine me having customers 500 to 1000 miles away sending back honey to have me melt it for them. I know you will say you can not do it, the people will not have it so; yet all the while you go right on educating them to have it the reverse. That our extracted can be marketed in the candied condition, and successfully, and a very large class of consumers reached that are not now eating honey, are two things I *know*. I also know that a good home trade at from 7 to 10 cents for the net honey at home beats selling delivered in Chicago at 5 to 6 cents, and producer furnish package and pay freights. That is the size of it, and you must face the fact.

Here are a few things to keep in mind: Producing extracted honey requires less skill as an apiarist, but it takes quite a considerable more capital invested in hives and machinery; takes more hard work, and, as intimated hereinbefore, unless you keep in mind that fact, of so much of the stores being put into the extra, and a vast amount of brood being reared in its place, you will starve your bees in winter and spring. Remember, too, that extracted honey will keep indefinitely, so that you have your time to accomplish its marketing; but with comb honey it must be sold and consumed within its first year.

Have abundance of super-room; plenty of tank-storage capacity to hold the product until well settled; do not rush to extract as fast as gathered, but use the extra super-room to hold the crop until after the rush is over; the rush over, extract at your leisure at home, having a warming-room in which to heat before extracting; after extracted and well settled, put into retail packages and set aside to candy; ship or market in retail packages that do not require a second packing after being drawn from your storage-tank, thereby lessening the vast amount of labor and expense that comes between the producer and consumer.

These things mean radical changes from the practices of many, but you will do well to think them over, and when you can get to it, practice in some way the principles. One plain fact must be evident to all, extracted honey sold in bulk, in cans and barrels, will not bring good prices nor be profitable. Produce for home trade, and in a retail way for table use; this is the solution of the problem that is now before the producer of extracted honey. R. C. AIKIN.

(Continued next week.)

The Premiums offered this week are well worth working for. Look at them.

Contributed Articles.

No. 2—Rearing Long-Lived Queens and Bees.

BY DR. E. GALLUP.

I don't know that I can get all I wish to say on the queen-rearing business into one article, but I suppose I will be allowed to write more if I live long enough.

To say that I was surprised at Dr. Miller's and Mr. Dadant's answer to the question, as to what is the cause of the longer or shorter lives of worker-bees, hardly expresses it. Why, gentlemen, don't you know that it is the longest-lived bees that do the most work, and out-of-door work at that? I know that the very best and most profitable colonies of bees are reared from long-lived queens—queens that live 5 or 6 years. On the other hand, the least profitable colonies and the shortest-lived bees are those that are reared from queens that live only from 6 to 24 months.

Perhaps no one has had any more experience in testing queens from as many different queen-breeders than I. As I have been a prominent writer, queen-breeders would send queens for me to test in the hope that I would recommend their stock, especially when the great fad was for fancy color. Now the fad is long tongues. But, gentlemen, and ladies, too, I want to see another fad, and let it be long-lived bees, both queen and workers. Neither their tongues nor tails will be shortened any by carrying out that fad.

When I came to California I took an apiary in Ventura county, to run on shares, and knowing how to rear long-lived queens and bees I selected two colonies that suited me to breed from, and having some dirty honey to stimulate with, and plenty of ready-made comb (the bees were all in 10-frame Langstroth hives), I began stimulating about the last of January, very gradually at first. But in February I attended to it more thoroughly, but not sufficiently to have them store any so as to restrict the queens in breeding. I diluted the honey to about the consistency of fresh-gathered nectar from the flowers, and sprinkled it in the top of the two hives every evening, right among the bees. Both hives were two stories, and each had one comb containing a patch of drone-comb; I spread the brood according to my notion as the queen required, and the first of March I had two rousing colonies. There being so many bees the queens could and did deposit eggs in any part of the hives, wherever they could find empty or vacent cells. Right here I will say that I usually get more queen-cells built than where the queen deposits her eggs in any one particular part of the hive, and I was not disappointed, as I got 36 natural queens from the two colonies. Both colonies sent out their first swarm early in March, before I had drones from other queens.

The proprietor thought they were not pure, because they were too dark-colored; but I called them dark leather-colored Italians, and I was not disappointed in them. "Why," said he, "their drones are all black."

Right here I will explain to our Eastern bee-keepers, that bees can and do gather pollen here the entire year. There was not to exceed four days the past winter that they did not gather pollen in some part of the day.

If the bees are left to themselves the queens usually stop breeding in November, and do not commence, to amount to much, until the last of January. February is about like your May and June weather. Of course, I mean here in the Santa Ana Valley, not in the mountains. It is now May 13, and for the past three weeks bees have been storing very rapidily, and swarming beyond anything I have seen before, since I came to this State. They are everywhere. A boy in the next block from me has 22 swarms, picked up in about as many days. One man has 12, another 42, another 24, etc. They have gone into barns, warehouses, chimneys, etc.

I told you in my first article (last week) how you could rear short-lived queens and workers. My calculations are to tell how I know, in another article.

I see Mr. Riker gives another touch on page 302, on the long-lives question. That is right, touch them up, as many of our queen-breeders need it, and need it very badly, judging from the number of worthless queens that I have received from different ones, many of them having been

worthless because they ruin any colony they are introduced into.

Well, another will follow this in due time, if I am spared. Orange Co., Calf.

Putting on Sections—Getting Early Swarms.

BY G. M. DOOLITTLE.

A correspondent sends in a couple of questions which he wishes answered through the columns of the American Bee Journal, the first of which reads as follows:

"I am a beginner in apiculture and wish to work wholly for section honey. When is it best to put sections on a hive having a new swarm?" That will depend somewhat on how you work, the size of the swarm, etc. If the swarm is large, and you have full sheets of foundation in the brood-frames, it is well to put on a super of sections at the time when the swarm is hived. And I think that I should fill the sections with foundations, as well as the brood-frames. But should you fill the sections with foundation, and use only starters in the brood-frames, the queen would be likely to go into the sections to deposit her first eggs, unless a queen-excluder was used, in which case she could not get into the sections, no matter how the hive was fixed below.

With nothing but starters in the brood-frames, and no queen-excluder used, then it is best to wait about putting on sections till the queen has commenced laying in the new comb built below, when the sections can be put on without fear of brood in them.

The plan I like the best, and the one I use more largely than any other, is to contract the brood-chamber to two-thirds its usual size, using only frames having starters in them of foundation about half an inch wide, on top of which is placed a queen-excluding honey-board. The new hive thus prepared is set on the stand of the parent colony while the swarm is out in the air or clustered on a limb, and the sections are now removed from the parent colony and placed over the queen-excluder on the new hive, when the swarm is hived in this new hive, now on the old stand, after which the old or parent colony is placed at some distance off on a new stand which we wish it to occupy.

In this way we not only get all the bees with the swarm into this new hive, but also all of the old or field bees which are in the fields at the time of swarming, as well as all the field-bees that come out from the old hive within a day or two later, as they return to the old location which they had marked, not realizing that their place of abode has been removed. This throws so large a force into the new hive that work does not stop in the sections at all, and, as a rule, prevents all after-swarms from the parent hive. As the larger part of the bees go to work in the sections, and have full room there for the honey they are securing, storing it in the partly filled sections removed from the old hive, comb-building progresses in the frames below only so fast as the queen can occupy the cells with eggs, and in this way, we, as a rule, secure the frames in this contracted brood-chamber filled with nice, straight worker-combs, at a less cost to us than the purchasing of foundation and fitting it into wired frames. But in any other procedure I think it best to fill the frames with foundation, for if we do not the bees build altogether too much drone-comb for the future prosperity of the colony.

The second question is as follows: "I am desirous of having just as many early swarms as possible. Would there be a gain or loss along this line by putting on the surplus arrangement or supers of sections early in the season?" It might be safe to say that, taking early swarms into consideration, there would be a disadvantage, or tendency toward a few days delay in swarming, if the surplus arrangement is put upon the hive before the bees swarm. Heat is one of the elements in forcing early swarms, hence, by putting on the surplus arrangement before the hive is crowded with bees, much of the heat from the colony will be distributed among the sections, which would to a certain extent retard swarming, as it also does brood-rearing?

If early swarms is of the utmost importance, even if we have to sacrifice other values, then it is best to keep the top of the hive as close as possible, and stimulate the bees by feeding, spreading the brood, and otherwise. Later on, when the hive becomes crowded with bees, and preparations for swarming are begun, the placing on of sections may not delay it. But if we count surplus honey a gain, then I can conceive where there would be a gain in putting on sections as soon as our main honey-harvest opens, as it is often the case that, with all our crowding and desiring early swarms, the bees will obstinately refuse to swarm, when we not only fail in accomplishing what we are after, but lose a part or all of the honey crop we might have had if we had put on the sections at the proper time.

I verily believe that during the past, when conducting experiments along this line, I have sustained more loss by trying to force swarms by crowding the bees, than by giving them too much room. Therefore, it has always been my advice of late years to place the sections on the hives at the proper time, just when the first flowers of our main honey harvest are opening, no matter whether swarming is desired or otherwise, resting assured that, with the majority of bee-keepers, more swarms will issue, when doing our best to secure a good crop of section honey, than we had hoped for, or at least fully enough to satisfy any reasonable persons. And if this should not be the case, it is very easy under our present enlightenment to make a few "swarms" after the harvest of white honey is over, which will, as a rule, build up and secure enough dark honey for wintering. This latter, it seems to me, is much more reasonable than to sustain a loss of white honey through fear that our bees will not swarm as much or as early as we desire. Onondaga Co., N. Y.

Telegony—The Influence of the Male on Succeeding Offspring Not Sired by Him; is the Theory Proven?

BY PROF. A. J. COOK.

If telegony be true at all, I believe it speaks with muffled voice and never in loud accents. May I present the matter to your readers, as it is very important in practical affairs? The belief in it once reduced the value of a cow in my herd many dollars. I believe there were no just grounds for this loss.

The theory of telegony is very important to breeders. The name originated quite recently with Weismann. Telegony teaches that a taint is given a female by mating with a male of different breed or race. To illustrate, a mare bears a foal from a jack. If the theory of telegony be true, any subsequent foal from that mare, even though sired by a horse, will very likely show mule characteristics. Again, a shorthorn cow is crossed with a Jersey bull. All future offspring, even from pure shorthorn, are likely to show the Jersey taint.

That there was some such theory in the minds of people as early as Jacob's time is possibly true. The theory has been regarded by many of our scientists as a correct one, back even to 1820, when Lord Morton wrote to Dr. W. H. Woolston, President of the Royal Society of Great Britain, the results of his famous experiments. These experiments were substantially as follows:

A nearly pure Arabian mare was coupled with a quagga. The resulting offspring was a female hybrid quite intermediate in character between the sire and the dam. The mare was afterward bred to a pure Arabian horse. The resulting filly, in the words of Lord Morton, and also a colt a year younger, were fine specimens of the Arabian breed, as fine as could be expected when only fifteen-sixteenths Arabian; but in the color and the hair of their manes they bore striking resemblance to the quagga. The stripes seemed quite conclusive, but the evidence from the mane and tail was less so. This testimony from Lord Morton has been regarded as conclusive by many scientific men. Darwin, in referring to this case, says, "There can be no doubt that the quagga affected the character of the offspring subsequently got by the Arabian horse." It is significant, however, that Darwin wrote afterward that telegony occurred rarely; for he stated, some years before his death, that it was "a very occasional phenomenon."

Agassiz believed in telegony. He was fully persuaded, to use his own words, "that the act of fecundation is not an act which is limited in its effects, but that it is an act that affects the whole system, the sexual system especially, and in the sexual system the ovary to be impregnated hereafter is so modified by the first act that later impregnations do not efface the first impressions."

Romanes also believed that telegony was of occasional occurrence. His researches were quite extensive. He sums up his conclusions in the following words: "The phenomenon is of much less frequent occurrence than is generally supposed. I doubt if it occurs in more than one or two cases in a hundred."

Herbert Spencer believed in telegony. He not only has

a theory to explain it, but also makes the basis of an extended argument which he used in his controversy with Weismann. The latter, who gave us the term "telegony," writes as follows in the Contemporary Review:

"I must say that, to this day, and in spite of the additional cases brought forward by Spencer and Romanes, I do not consider that telegony has been proved. I should accept a case like that of Lord Morton's mare as satisfactory evidence if it were quite certainly beyond a doubt. But this is by no means the case, as Setegast has abundantly proved."

Settegast explained the case in question as an instance of "reversion." He says, "Cases are not rare where colts are born with stripes which recall the marking of a quagga or zebra." Many German breeders hold with Weismann that telegony is yet unproved.

The late Sir Everett Millais, an eminent breeder of dogs in England, was also a doubter. He says:

"I may further adduce the fact that, in a breeding experience of nearly thirty years' standing, during which I made all sorts of experiments with pure-blood dams and wild-blood sires, and returned them afterward to pure sires of their own breed, I have never seen a case of telegony, nor has my breeding-stock suffered. I may further adduce the fact that I have made over fifty experiments for Prof. Romanes, to induce a case of telegony in a variety of animals—dogs, ducks, hens, pigeons, etc., but I have hopelessly failed, as has every experimenter who has tried to produce the phenomenon."

Very recently Prof. Ewart used Matopo, a beautiful zebra stallion. He has secured eleven zebra hybrids, from mares of various breeds and sizes. Some of these hybrids were even more marked with stripes than the sire. The mares were afterward bred to horses. The progeny were for the most part very much like ordinary foals. There were, however, stripes, which in some cases were quite evident in certain lights, but even these in many cases disappeared later. It is interesting to note, however, that these faint stripes were unlike those of the sire or even the hybrids. Foals of ordinary breeding very often show similar stripes. Many of the colts show no stripes at all, nor any indication of taint. Prof. Ewart has also experimented with pigeons, fowls, ducks, and dogs. There were many cases of rabbits, and in every case the mother which had been impurely mated subsequently bred true upon being purely mated. Prof. Ewart does not claim to have proved anything. He is certain that it does not always occur, and believes with German breeders that, if it occurs at all, it is seldom. We quote from him: "The experiments, as far as they have gone, afford no evidence in support of the telegony hypothesis." He believes that the stripes are easily explained by atavism or reversion. Certainly we owe a great debt of gratitude to this Edinburgh professor. Very recently Prof. Ewart gave the results of further experiments to the same purpose.

The late Dr. Manly Miles, in his "Principles of Stock-breeding," accepts telegony. He gives a case in his own breeding. An Essex sow was bred to a Chester White boar. She was afterward mated purely, and produced a litter of pigs which were as much mixed black and white as the previous litter. I was at the time a colleague of Dr. Miles, and with many others had grave doubts regarding the experiment. A careless work-hand, the accidental opening of a gate, so many things would explain the result without an appeal to telegony. The taint was so great that it could not but make us skeptical.

As is well known, many poultry-men and apiarists argue that the law of telegony is as true of birds and bees as of mammals. I have long doubted its truth with poultry, or our pets of the hive. Telegony was at first explained as blood-taint in the case of mammals; but there is no intermixture of the blood of the mother and the embryo. An extensive membrane in the placenta separates entirely the blood of mother and fœtus. Blood-taint is obviously impossible. The nerves were next appealed to to explain this phenomenon. This, however, is vain, as the nerves of mother and offspring are entirely separate. Dr. Miles called in cell-inoculation to explain telegony. We all know how inflammation spreads in the case of wounds. The explanation is evident. Poison, or possibly microbes, pass from the injured to the uninjured cells, and, with the spread of the cause of the disease, the disease spreads. In telegony there is no virus, and so there could be no inoculation. Herbert Spencer suggests that "germ plasm" passes from the fœtus to the mother and becomes a part of her body, and spreads to affect all the tissues, even the reproductive organs. This is surely very hypothetical.

I was led to question the truth of telegony, as the testimony seemed as conclusive with birds and bees as with mammals. Mr. Spencer's germ-plasm could not affect in these latter cases. With fowls, only the sperm-cells are lodged, and that for a brief space, in the oviduct of the hen. There is no organic connection, and it is hard to see how any influence could taint the hen. I know it is claimed with some show of authority that impure mating changes the color of the egg-shell. I can only say, very interesting if true. If such a change occurs, I believe reversion explains it. In the case of bees the connection is a little more obvious. Here millions of sperm-cells are lodged for years in the spermatheca, or sperm-sac, of the queen. There is, however, no difference in kind from the fowls—the only difference is in time. The sperm-cells are present in the reproductive apparatus for years instead of days.

So grave were my doubts that I experimented at length to see if I might decide the matter. My experiments with poultry were made with Light Brahmas and Brown Leghorns. These birds are different in limb, feather, form, habit, and color of egg. The fowls all ran together through the winter, mating promiscuously. In early spring I separated the birds, putting all the Leghorns, male and female, in one pen and the Brahmas in another. After three weeks I commenced to incubate the eggs, and raised over 200 chickens. There was not the least show of taint in either breed. We all know how persistent the feathers on the legs are with any show of Brahma blood. My Leghorns had legs that were entirely clean. At the close of these experiments I was more skeptical than ever as to the truth of telegony in birds. Noted breeders of long experience in our country make similar reports.

I next experimented with bees. I procured a queen all the way from Syria. I introduced her in my apiary where there were only Italians. I at once reared several queens from her which must have been mated exclusively with Italian drones, as there were no Syrian drones within hundreds of miles. As is well known, drones hatch from unimpregnated eggs. Here, then, if the drones from these queens should show any Italian taint, we should have positive proof of telegony in bees. The eggs, not being impregnated, can produce only drones that have the characteristics of the mother. If impure, then surely the mother must be affected. In this case we have examples, not by the tens nor the hundreds, but by the thousands. I examined these drones very carefully, as did my students and many others. Every drone was decidedly Syrian, and had not the slightest mark of an Italian. Have we not, then, good reason to doubt the truth of telegony in bees?

I have known several cases among mammals where telegony might be put in evidence if true; yet in every case the evidence was absent. I know this is only negative testimony. I went to the Chicago exhibition during the time that mules were being exhibited. I talked with many extensive breeders, and not one believed in telegony. They all said that they had had no evidence of its truth.

As stated at the beginning of this article, this is a matter of no little importance to the breeder. If telegony be true, then accidental cross-mating with any female for ever taints her blood. I am so firm in the belief that it is not true that I would not pay a nickel less for a shorthorn or Jersey because, at some time in the past, she had been impurely mated.—Gleanings in Bee-Culture. Los Angeles Co., Calif.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

LAW AGAINST BAD HONEY-DEW HONEY.

And so the New York folks have got a law under which the man who puts on the market a bad article of extracted honey-dew can be fined fifty dollars? It would serve him right, and, so far, no cause of complaint. But some years, and through extensive regions, half the honey produced is more or less mixed with natural sweets *not nectar of flowers*

—and so not pure honey according to the wording of the Act—and yet not bad either as to taste or wholesomeness. Most of the producers do not themselves know whether their honey is New-York-pure or not. Of course, the experts who drew up the wording of the law "allowed" that no one, either for fun or for spite, would go around slaughtering these innocent lambs. This critic, however, doesn't believe it's wise to have legal power to slaughter lambs put in the statute books. Page 275.

CLEAN DIRT FROM THE BEES.

"Clean dirt," is it, Mrs Axtell, that we get from the bees? Yes, I often try to console myself a little with that maxim, too. Unfortunately bee-dirt is rather worse than the average dirt as to being filthy *looking*. Those who constantly and tremblingly ask, "How do I look?" will find scant peace behind a nice white apron well propolized. Page 278.

VALUABLE REMEDIES THAT ARE NOT NEW.

Miss Wilson will not be able to patent her panacea—Get well by not thinking of your disease—too many before have recognized its curative value. Every mother knows a funny story heals a bump. Nevertheless it's good and profitable to advertise afresh valuable remedies which are not new, as Miss Wilson does on page 279. Sometimes, and just right, give earnest study to your ailment. Sometimes, and just right, cast the whole thing off your mind, utterly and absolutely. As to our moral ailments, *same rules*. A vast number of people are greatly in need of a little self-examination. On the other hand, many (by counting here and there one) suffer terribly—suffer almost to the destruction of sanity and life—by ill-advised and too constant moral introspection. Don't brood. Some chickens will die of cold and neglect if they are not brooded. Try it on that ineradicable sin, and that incipient cancer of the stomach, and that internal tumor.

CROWDING HIVES MAKES BEES CROSS.

The idea of Mr. A. Boomer and his friends, that crowding the hives makes the bees cross, is an idea not much in the papers. Is it that the children "sass" each other from yard to yard when the homes are thus near, or what? In manipulation, if we disturb other hives besides the one or ones we smoke, that might tend to general bad temper. The closer the spacing the greater that difficulty will be. It is tolerably plain that manipulation, if it ends pleasantly all around, improves the temper of the bees; while all ugly "musses" (especially if the bees think they have driven you off) have a contrary effect. Page 284.

MORE PROMENADE SURFACE FOR SWARMERS.

As a general approximation, 75 percent of the bees to go with a swarm and 25 for the old hive will do very well. I think the percentage varies very greatly; nearly all that can fly going sometimes, and on rare occasions not more than 25 percent. If you *want* more of the bees to stay I think I can tell you how to compass your desire without much trouble. Have a big, empty upper story. Set in several division-boards, or whatever "gingerbread work" you can lay hands on, with intent to increase the promenade surface there is inside. Fix the quilt so the bees can easily get above if they wish. Most beholders do not see all there is of swarming. While taking flight is going on at the door a grand promenade is going on inside, up and down and all over, entrance forced into every crack and cranny. Now, the idea is that the more promenade surface there is the more promenaders there will be that will satisfy their appetite for excitement without going to the door and taking flight at all. Page 291.

PUTTING BEES OUT AND RETURNING TO CELLAR.

Putting bees out and then returning them to the cellar—presumably most of the cases where that has been tried were cases where dysentery had become very bad—bees sure to die any way, in or out. This would naturally lead to the idea that the plan was a bad one. Bees in tolerable health, only uneasy and distended, would constitute a very different case. It would not be surprising if a partial reversal of doctrines should come in with more exact and discriminating experiments. Page 291.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Dividing Colonies and Introducing Queens.

I have 13 colonies of bees (blacks) that I wish to divide, and this is the way I thought of doing: About the time they are preparing to commence to swarm divide both brood and bees about equal, and have a laying queen ready for the queenless half. Now for the questions:

1. Which should I leave on the old stand, the old queen or the queenless half?

2. How long should I leave the queenless half before introducing the new queen?

3. I intend to use the old black queen this season, but want to Italianize all this fall, or in the spring. What would be the proper time to have them for the next season?

PENNSYLVANIA.

ANSWERS.—1. Better leave the old queen on the old stand. But if you want the two parts to be equal in strength you should put the larger part of the bees and brood on the new stand, for all the field-bees will return to the old stand.

2. With a provisioned introducing-cage you can give her at once, or you can wait a day or two.

3. Toward the close of the honey harvest is a good time.

Honey from Dogwood and Bitterweed.

DR. MILLER:—I notice on page 282, that in your reply to "Mississippi" you say that you do not think dogwood (Cornus florida) yields honey.

Dogwood, in Jefferson County, Ala., begins to bloom about April 15, and yields much honey. (You will notice that the showy part of the blossom is not a part of the flower, but only the calyx—the flowers proper are in a compact cluster, and are composed of petals, stamens and pistils, making a perfect flower.)

The honey from the bitterweed is intensely bitter.

I write you this hoping to aid you in a small degree in your work. C. C. PARSONS.

Escambia Co., Fla.

I am very glad to be corrrected, and to know that the beautiful dogwood is useful as well as ornamental.

Management for Extracted Honey.

DEAR DR. MILLER:—I have been reading articles from your pen for years with much pleasure, and sometimes with profit. But what I admire most is what you "don't know." When one has passed the "know it all" stage, he usually knows something, and can make a good guess at what he "don't know." But I wish to warn you against following the advice given by Dr. Miller in the American Bee Journal to "California," in regard to putting the queen in the lower story on empty frames. Don't do it. I tried it last year on 7 colonies, and had 7 failures. In every case the bees followed the brood in the upper story and left the queen. Two of them were allowed a flight-hole from the upper story, and they left the queens entirely, and they both died—starved, I suppose. The others were compelled to go in and out through the lower story, and they fed the queens, but were so slow in building combs that I lost the use of the queens for a long time, and the colonies, being practically queenless, stored but little surplus. It prevented swarming for a certainty.

This season I am practicing two methods, and both are proving a success as far as I have had time to test them. First, I took two frames of brood and the queen and put them in a new hive and filled up with frames, left them on the old stands, and put the remaining combs and bees on top of another one-story colony with excluder between, thus making a very strong colony that begins storing honey at once, and I think the old queen and returning bees will

build themselves up into a strong colony before the season closes. They are building comb well now. If they are not strong enough I can add to them at the close of the white honey from the "boomers."

My second plan is to make what Ernest Root calls "shook swarms," putting them on empty frames and giving the combs with brood and honey to another one-story colony.

Colonies that have queen-cells ready to seal do as well as natural swarms. I find it will not do to give the new swarms combs in the upper story until they have the frames in the new hive nearly full of comb. DELOS WOOD.

Santa Barbara Co., Calif.

ANSWER.—One of the things that help to lighten my work in the "Question and Answer" department of the American Bee Journal, is the fact that sharp eyes are upon my work, and back of the sharp eyes kind hearts ready to help out where I fall short. In the nature of the case it must be that questions will come that fall outside my own experience, and then I must rely upon what I have learned from others. After learning of the experience of Mr. Wood, I should advise that one who desires to try the plan of putting the queen in a lower story should try it at first on a limited scale, until he finds how it works in his case.

I am very much puzzled to know why the plan should work so differently in California, for it so happens that I have tried the plan in a good deal more than seven cases, with no sign of a failure in any case. I never allowed a flight-hole in the upper story; in fact, I allowed no possible entrance except through the lower story, but even if I had allowed an entrance above I should not have expected any different results, expecting the bees from habit to have continued to use the lower entrance.

I would give a good deal to be present to see the progress of a case in the hands of Mr. Wood, so as to find out if possible what makes the difference. Let me give a little in detail the course of a case, and if Mr. Wood can see his way clear to do so, I wish he would try just one more case, and then tell us wherein is the first departure of his bees from the course pursued by mine:

I wait till queen-cells are begun, then the brood is raised to the upper story, and the queen left upon foundation in the lower story, with an excluder between the two stories. The queen stops laying in every case, and I *suppose* she spends her time in the fruitless attempt to get up through the excluder. This cessation of laying I believe to be an essential part of the program, and without it I think the plan would be a failure. The bees, however, go right on gathering as busily as ever, and in two, three, or four days the queen begins laying in the foundation. I think I never had a case in which the queen sulked more than four days, but, certainly, she began within the week. If Mr. Wood should try another case, I wish he would tell us whether he finds eggs later than the fifth or sixth day. Also, the outcome of the first of the two plans he is trying this year.

Italianizing and Working for Honey.

I wish to Italianize and also work for comb honey. I understand that after a swarm leaves the hive there will be no eggs in the old hive for 21 or 25 days. Of course, the bees will not do much work during that period. The safe and proper way is to let the bees follow their natural instinct. Will I gain anything by introducing a laying queen in a Benton cage, and cutting out the cells?

MASSACHUSETTS.

ANSWER.—Are you sure, when you say, "Of course, the bees will not do much work during that period," that your "of course" is well founded? So good an authority as G. M. Doolittle is very positive that nothing is gained by doing as you propose. He is pretty certainly right for his locality, and it is not unlikely that the same thing is true for you. It might be a good plan for you to try some both ways and compare results. Then please be sure to give us your conclusion.

Not Foul Brood.

I mail you a sample of comb under separate cover, and will thank you if you will let me know what you think about it. I have never come in contact with foul brood, and did not know but what I had run up against a genuine case. If so, I shall be pleased to have you tell me how you would go at it to stamp it out. The colony that this comb is taken from died out some time during the winter. The piece which I mail you is the worst in the hive. I have Quinby and Langstroth reversible hives. I have read the convention reports, but I am not sure that I am right, and ask for your valuable counsel.

I have so much to do that I can not give the bees proper attention, but I do the best I can, and will endeavor to clean them up if it is foul brood. IOWA.

ANSWER.—There is no appearance of foul brood, and I'm not sure there is any disease at all in the case, but it seems different from anything I ever saw before. The cells that are sealed, when the capping is picked away, seem to be entirely empty and clean, as if the bees had just sealed them up for a joke. Can it be that some very minute insect has eaten out the contents of the cells?

Bee-Paralysis.

"Past blessings do not suffice; I am still needy." I mean I have another question that I would like to have answered through the American Bee Journal.

I have a colony of bees that are afflicted with some malady, and I want a cure. The colony is a first swarm of last season; it was in good condition last fall and wintered all right, being strong this spring. About three weeks ago I noticed something wrong. Quite a number of bees—perhaps two to four dozen—each day crawl out, or are hauled out of the hive by the other bees. They remain on the alighting-board or crawl on the grass around the front of the hive, and are unable to fly, but keep up a constant motion with their wings for a few hours, then die. The most of them look natural, though some are very black, hairless, and shiny. In other respects the colony seems all right, working when the weather is fit, carrying pollen into the hive and rearing brood. What should I do in the case?

I find nothing in the books that covers it, unless it be "Bee Paralysis," mentioned in "A B C of Bee-Culture," and this, to my mind, does not quite cover it.

I am anxious to do what is needed as soon as I learn what that is. OHIO.

ANSWER.—If your name was Mississippi or Florida instead of Ohio, I would say that I could only condole with you without the slightest hope of helping you. Seeing you are as far north as Ohio, I can bid you dismiss your fears, and let things take their course. Your description so clearly given leaves no doubt that your visitor is bee-paralysis. I had one case so bad that I broke up the colony. But that was the only case so bad. I've had many another case, but the colonies suffered only temporary loss, and I never paid any attention to it. I'm not sure that I've seen anything of it for three or four years.

Preventing Further Swarming—Young Queens.

In the winter of 1900-01 I read one or two articles in the magazines and papers relative to bees, and caught the fever. I borrowed some late American Bee Journals and a text-book, and "read up" some more, and in May, 1901, I purchased a nucleus of three frames in a dovetailed hive, the rest of the frames with full foundation. The queen was a tested Italian, and proved very prolific, as she led out a good swarm, June 26, which was successfully hived.

August 1 the original purchased queen led out another swarm (colony No. 2), which was also secured and properly hived, thus giving me three colonies. We secured about 40 pounds of section honey.

I put these three colonies into winter quarters out-of-doors, and they wintered all right, and have been so industrious that on May 16 colony No. 1 (the purchased queen's first daughter) led out a swarm, and May 18 colony No. 2 (the purchased queen's second daughter) led out one also, both of which are now at work in their respective hives.

So much for the history of my bee business. Now for the questions I wish to have answered as soon as possible.

After the two swarms spoken of above were cared for in their new homes, to prevent further swarming for the season if possible, I proceeded to cut out all but one queen-cell in hives No. 1 and 2.

1. Was that a wise thing to do?

2. How soon should the new queens be hatched, and out on their bridal-trip, and the hives examined to find the queen? NEW HAMPSHIRE.

ANSWERS.—1. Yes, if it was desired to have the strength divided equally as possible between the swarm and

the mother colony. In many cases it is better to throw the main force into the swarm, getting a good yield of surplus from that, and expecting the old colony to do nothing more than to get a good ready for winter.

2. I don't know, for I don't know the age of the young queen in the cell you left. When no cells are cut out, and no second swarm issues, the young queen may be expected to emerge from the cell in about a week after the prime swarm issues, and that would also be the case if you cut out the cells immediately after the issue of the swarm, leaving a sealed cell. But if you waited several days before cutting out the cells, you may have left a younger cell, for the cells will vary as to the time of being started, and consequently as to the time of the emerging of the young queen. The queen will take her wedding-trip when five days old or older, and you may look for eggs when she is about twelve days old. She may begin laying when eight or ten days old, but it is well enough to delay looking, as it is not so easy to find the first few eggs, and if you do not find them easily when she is twelve days old, you may fear something wrong.

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Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North.

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Prices of GOLDEN and LEATHER-COLORED QUEENS, before July 1st:

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The Nuclei are 3-frame Langstroth, in light shipping-boxes. Prices: 1 for $3.00; 5 or more at $2.75 each.

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9—23A2t

GENERAL ITEMS

Getting Along Very Well.

I am getting along very well in the bee-business. I started three years ago with 9 colonies, came out this spring with 42, all in good shape. I have had a dozen swarms this spring, and am looking for more every day.

I had 1800 pounds of honey last year.

The American Bee Journal has been a great deal of help to me, as I was a beginner and did not know it all, neither do I yet.

T. S. ELLIOTT.

Delta Co., Tex., May 18.

Prospects Good.

I prepared for winter last fall 20 colonies of bees, leaving them on the summer stands, by putting winter-cases over them. I lost 2 colonies. The balance are in fine condition, uniform in strength, with a large force of workers.

Prospects for a honey crop are good.

Wood Co., Ohio, June 2. M. N. SIMON.

A Warning to Bee-Keepers.

The Arkansas Valley Bee-Keepers' Association desires to say, that except in a few localities this valley is overstocked to such an extent that any increase will sensibly augment the overstocking; that in the last few years the averages of the best located have decreased fully one-half, and that further coming of bees among us from abroad is not advisable, and by us not desired; that in all not fully occupied places the natural readjustment of apiaries will very soon fill all spots; that early cutting of alfalfa is the rule; and that large tracts of land are being turned to the raising of sugar beets, still further reducing pasturage.

Our Association, therefore, desires to lay the facts before the readers of the American Bee Journal, and expresses the hope that this communication may be of some good.

Adopted as the unanimous expression of this Association, this 3d day of May, 1902.

Otero Co., Colo. J. K. WASSON, *Sec.*

Just Started With Bees.

I have just started in the bee-business. Last winter my father purchased 4 colonies of bees and 5 empty Langstroth hives. He gave them in my care, and I wish to do the best I can to take care of them.

They wintered well and came out strong this spring. They are nearly all Italians. In a shady place they hang out on the hives like swarming. I gave them ventilation according to the American Bee Journal. KYLE INK.

Richland Co., Ohio, May 23.

Fastening and Cutting Foundation.

I told you how I fastened foundation in extracting frames some time ago, and requested an explanation of a better way, if any one had a better way. No one seemed to think the job needed any special instructions, or else they had no better way themselves. My way didn't exactly suit me, so I tried several other ways, and finally struck the following:

Take a common machine-oil can, with plenty of spring in the bottom, wrap it with a

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, JOHN THOEMING.

MONTHS		May and June.	
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00
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Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00

Select tested, $2.00 each, after June 1.
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We begin mailing Queens about May 25, and fill orders in rotation. Circular free.

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18Etf Please mention the Bee Journal.

(Exact size of the Pen.)

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They hold sufficient ink to write 10,000 words, and **do not leak or blot.**

As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

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THE FRED W. MUTH CO., Front and Walnut Sts., CINCINNATI, OHIO.

Please mention Bee Journal when writing.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

heavy coat of asbestos-paper to retain the heat longer and make it cooler to handle; fit a short, stubby, fine-pointed nozzle for the spout, fill it about one-half full of beeswax, and set it over the smoker until the wax is melted. The rest of the job needs no explanation, as any one intelligent enough to keep bees at all can invent some handy way to handle it in getting the foundation in.

While I am at it I am going to tell you how I cut my section foundation. I make 7 or 8 starters of each sheet of wax (I use none but the Extra Thin). Make a cutting box similar to a common miter-box, and cut the pieces about as much triangular as 7 or 8 starters to the sheet will cut. I have not found it necessary to use bottom starters. Should one prefer them a narrow strip can be cut from the sides of the sheets for such starters. Being somewhat proportioned like naturally built combs, sufficient bees are not apt to cluster on them to pull them loose at their greater proportioned fastening surface than if cut square; besides, if it is not set in the section perfectly square it will not matter, as the edges can not come in contact with the sides of the section, which will cause a square one to "buckle" if not exactly true.

Try a few my way and report. May be you have a better way; if so, out with it.

Sioux Co., Iowa, May 20. F. W. HALL.

A Corncob Bee-Feeder.

I wanted an available something to feed my bees early this spring with a view to encouraging brood-rearing to strengthen my rather weakened colonies. I thought over some of the suggestions that I had seen advanced—the wet cloth, the perforated can, the sponge, etc., but somehow I stubbornly insisted there might be a better way.

Ah, I thought so. First I put on an empty super over the brood-chamber, then I shelled a dozen big ears of corn, brushed the fuzz off the large cobs, tied them together corduroy fashion that they might hold together, and, having my thick sugar syrup ready I soaked them in it and laid these cobs over the frames. Of course, every cavity where the grains grew was filled with the syrup, much like the cells in their wax, permitting the bees to sip out the syrup (honey would have been better) at their leisure without the fear of running over the combs faster than the bees could take care of it. In renewing the feeding after the first time I simply poured the syrup carefully over the cobs, without removing them, from time to time until the bees could gather from the blossoms.

The utility of this method must be apparent at first glance. The feeding is perfect, the cobs reasonably available, and the cost admittedly light. Result: Big colonies.

This is a hint for our farmer boys. Try it, and you will be pleased.

In tying them, alternate the big ends with the small ends of the cobs; they will then fit better. YOUR UNCLE FRANK.

Hard Time for Bees.

This has been a very hard time for the bees. The winter was unusually severe, the month of April having only a few days warm enough for the bees to fly. The first half of May was very cold, and now apple-trees are in bloom, and during the past three days another cold wave has been here, and hardly a bee able to leave the hive. Unless next month is very favorable the crop of white honey will be very small. A. W. SMITH.

Sullivan Co., N. Y., May 30.

A Favorable Spring.

I bought 2 colonies in box-hives during the winter of 1900, and transferred to 8-frame hives in June, and increased to 4 by transferring the brood three weeks later, all of which made good colonies. My place is in Limestone County, about 18 miles from home, hence I am there but little of the time, which I find does not suit to make a success of bee-keeping, yet I have learned enough to believe firmly that an experienced bee-keeper can do well in that locality. There are a large number of sourwood trees there, and the honey

from them surpasses any I have seen, both in flavor and color, being as nearly pure white as it is possible to be, I think.

Owing to the dry weather last fall, and there being no clover fields, the fall flow was light, but so far the spring has been very favorable indeed. I have taken off several sections of nice honey, with the best flow yet to follow from sourwood.

GEO. W. PARKER.

Morgan Co., Ala., May 28.

BEEDOM BOILED DOWN

Honey for Horses.

Molasses is very much used for mixing with food for stock, and I don't see why our inferior grades of honey may not be quite, if not more, beneficial. One thing I accidentally noticed during the past season was that a horse can become very fond of honey. I extracted my Wyanleigh apiary in a tent, and when I finished and had the honey tinned and removed I removed the tent, but through want of cartage-room I had to leave the cappings, covered up, for another trip. During the night my horse, which is mischievously inclined, and does not stop at opening a gate, removed the cover and helped himself. I fastened the box, but the following night he again helped himself by upsetting everything and scattering the cappings all over the yard. Needless to say the bees started working on the caps. That did not interfere with the horse—he rolled the lumps of caps to one side to disturb the bees, and finished the spilt caps during the day. Altogether about 30 pounds of cappings were eaten by him in the two nights. Here is the point: That horse was troubled with an itchy skin, and was continually tearing the hair off his head, tail, and body, by rubbing on sharp projections. A few days afterwards he got all right and ceased to scratch the hair off. I believe the honey was the cause of the cure, though the wax may have had something to do with it. If honey was the cause, could not our inferior honeys be used for keeping horses and other stock in healthy condition?—Editor Pender, in the Australasian Bee-Keeper.

Long-Tongue Bees.

"A York County Bee-Keeper" says in the Canadian Bee Journal:

By the way, Mr. Editor, have you noticed how the "long-tongue" craze is slowly dying out? From the way the queen-breeders went wild over it we could expect nothing else, and then Prof. Gillette's experiment was the "straw that broke the camel's back." Last fall, while talking with a friend, I ventured to predict that in one year from that date, not one queen-breeder in a dozen would mention long tongues. Judging from the ads. up to date, I believe such will be the case.

The Swarthmore System of Nucleus Management.

This is reported upon unfavorably in Gleanings in Bee-Culture by "Queen-Breeder," who seems to have tried it on a large scale, having as many as 320 nuclei. He says:

In due time I found, by examination, eggs deposited in about 200 boxes, which I marked for convenience. The remaining boxes were, many of them, queenless, and others with queens evidently not fertilized. I gave virgins to the former, and awaited developments with the latter.

Of the 200 boxes containing eggs, I supplied 100 with queen-cards, to be kept until the brood hatched for warranted queens, etc. I had some orders for untested queens to be filled in a short time, and congratulated myself on having the other 100 queens to apply; but, alas!

The best-laid plans of mice and men gang aft agley
And leave us naught but fear and pain for promised joy.

Well, I went to these little colonies, expecting, of course, to find in each a fine, healthy queen. Out of the 100 I took 27 queens, all that could be found. The remaining 73 were queenless, and many with queen-cells in various stages of consumption. Here was a direct loss of 73 queens.

He continued his experiments until he had lost more than 200 queens, and thinks the loss largely due to the fact that the bees went visiting from one nucleus to another.

Carniolans and Swarming.

Here is an editorial from the Modern Farmer and Busy Bee:

A. H. Duff says in the Journal of Agriculture, "Carniolan bees are not given to swarming more than the pure Italians, and, perhaps, not as much." There is where you are off, Mr. Duff. If these bees are not properly looked after, if they are left to themselves, they are the worst swarmers we have ever handled.

No Foul Brood in Foundation.

Adrian Getaz says in the American Bee-Keeper:

In discussing the possibility of the transmission of foul-brood spores through wax foundation, a correspondent of a German paper remarks that even if the heat of the melted wax did not kill the spores outright, they would be imbedded in it, and never be able to get out, having no means to burrow their way through it. A coat of wax will eventually kill any living being anyway, by shutting air and moisture out altogether.

Points in the Introduction of Queens.

W. H. Pridgen says in Gleanings in Bee-Culture:

From my experience in introducing queens by using bees from the colonies to which they are introduced, I consider the plan outlined by Mr. Bonney far superior to the usual instructions that accompany shipping-cages. In fact, I have not attempted to introduce one in years with the cage in which she is received without first releasing the escort and caging some of the bees of the colony with her, which invariably treat the queen kindly if very young, or having filled themselves with honey. It also works equally well if the queen be caged in an odorless cage without any bees, but still better to use the bees and odorless cage, or the odorless cage without the bees, first scented by allowing the queen to be superseded to remain in it an hour in the hive; but I prefer scenting the cage with the old queen, and then using the bees with the queen to be introduced, either by placing her in it and selecting the bees one at a time, or allowing them to go in, which they quickly do in search of their mother, and close them up for awhile and then allowing the queen to run in.

One advantage worth considering in having bees with the queen is that she is less liable to be damaged by the outside bees by getting hold of a leg or wing. I am partial to side-comb cages, as the queen is placed right down in the cluster; but instead of relying on hatching brood, young bees are at once put into the cage with the queen, through a hole near one corner, as large as a leadpencil. The hole is stopped a day or two with a cork, and with candy when the cork is removed, thus allowing the bees to release the queen, and combining the good points in the different methods. A great deal of this is too complicated for a novice, and no doubt for that class the usual instructions are best; but before being too confident of uniform success by pasteboarding, it should be remembered that, when queens are sent by mail, bees, cage, and all partake of the scent of the mails, and from this source much of the

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

An Italian Queen Free!

We would like to have our regular subscribers (who best know the value of the American Bee Journal) to work for us in getting NEW subscribers. We do not ask them to work for us for nothing, but wish to say that we will mail ONE FINE UNTESTED ITALIAN QUEEN for sending us ONE NEW subscriber for a year, with $1.00; or 2 Queens for sending 2 new subscribers, etc. Remember, this offer is made *only* to those who are now getting the Bee Journal regularly, and whose subscriptions are fully paid up.

In case you cannot secure the new subscribers, we will mail one of these Queens for 75 cts., or 3 or more at 70 cts. each; or the Bee Journal one year and a Queen for $1.50.

(Please do not get these offers mixed up with our Red Clover Queen offers on another page.)

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

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everybody likes for hard usage is The PAGE.
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100 Langstroth Winter Hives, Supers, Zinc-Honey-Boards, Bee-Escapes and Feeders. KARL KEIM,
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We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.
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Christian Scientists'

meeting in Boston June 15th to 18th. It will be to your advantage to obtain rates applying over the Nickel Plate Road before purchasing elsewhere. Tickets on sale June 12th, 13th and 14th. Final limit returning, July 31st. Call on or address John Y. Calahan, General Agent, 111 Adams St., Chicago.
10—23A2t

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24 years the best. Send for Circular.
25Atf T. F. BINGHAM, Farwell, Mich.

Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,
GEORGE W. YORK & COMPANY,
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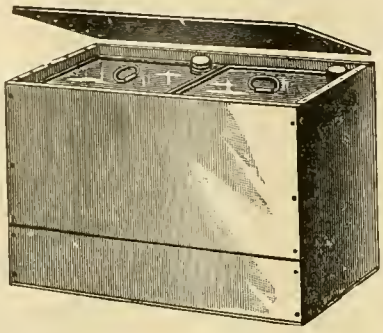
Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Queens Now Ready to Supply by Return Mail

Stock which cannot be excelled. Each variety bred in separate apiaries, from selected mothers; have proven their qualities as great honey-gatherers.

Golden Italians Have no superior, and few equals. Untested, 75 cents; 6 for $4.00.

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Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

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alog? 60 illustrated pages; describes EVERYTHING NEEDED IN THE APIARY. BEST goods at the LOWEST prices. Alternating hives and Ferguson supers. Sent FREE; write for it. Tanks from galv. steel, red cedar, cypress or fir; freight paid; price-list free.

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Agencies: Trester Supply Co., Lincoln, Neb.; Shugart & Ouran, Council Bluffs, Iowa; Chas. Spangler, Kentland, Ind. 12E26t

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trouble arises, and there will not be the success that attends the same plan if the queen be changed to a fresh cage, thus removing much of the odor.

Bees will often destroy their own queen if given back after having been caged an hour or two with some of her own bees in a cage that has an odor that is transmitted to the queen.

Inasmuch as Dr. Miller was impressed by the fact that bees caged with a queen from a different colony were kind to her, I wish to say that, when robbers are bad, I often prepare a number of cages with escorts, by selecting the returning young bees that are taking their playspells, and find that it works well, as they always treat the queens kindly, are exactly the right age, and I have only to keep the nuclei open long enough to find the queen.

Upon this Editor Root comments as follows:

When Dr. Miller first spoke of his plan in his Straw (page 680, 1901) I did not take much stock in it; but I am free to confess that there must be something in it after all. Caging the bees, and keeping them so until they have a real sense of their confinement or loneliness, no doubt puts them in a condition where they are ready to take up with *any* queen. When they are given back to the whole colony having the same scent, the new queen with them, all goes on lovely. But, as Mr. Pridgen points out, it is doubtful if the beginner would be able to recage or change the escort. But the advanced bee-keeper may well give it a trial. I should be pleased to hear from others.

Queenless Colonies in Spring.

The following is taken from the report of the Ontario convention in the Canadian Bee-Journal:

QUESTION—What is best to be done with the queenless colony early in the spring?

Mr. Hall—If it has lots of honey I would simply pick it up and put it on top of one that had a queen and not much honey. If I hadn't one in the condition I would simply shake off the queenless bees and preserve the comb, honey and hive for future use. Beginners always fancy they must introduce a queen as soon as they find that a colony is without a mother. They are just wasting their time and money, as a rule. I used to be bothering about that sort of thing, but I haven't done so these 12 or 14 years.

Mr. Dickenson—I quite agree with Mr. Hall; that is my experience exactly. It does not pay to introduce a queen to a colony that you discover is queenless in the spring.

Early or Late Setting Out of Bees.

I mentioned in our last issue that we set out all the bees from both cellars along from the 20th to the last of March, and gave them one or two days of flight. The location of each hive was marked so that, when the bees were set out again, each colony would go back to its own stand. This may not have been a necessary precaution, but we felt that it was wise to err on the safe side. All the bees were kept in the cellar till along the first week in April. About 100 colonies or nuclei were set out of the home cellar, and left out. The rest were confined till about April 20, when they were put out. But in this case Mr. Wardell thinks the first lot of bees are in better condition than the second lot. The former have brood in all stages, while the latter have nothing but eggs, and it looks now as if the first bees had about two weeks' start over the others in brood. This seems to contradict my footnote on page 186 of this year, wherein I said I believed it was the best policy to keep the bees in until the first of May. A year ago, about this time, we set out some bees early, and some not till May. We thought the last lot of bees had the advantage over the others, because there was a storm on April 20, and the snow lasted for several days, with a good deal of cold weather.

It is hard to tell just when to set bees out; but obviously it would have been better this year if *all* the bees had been set out about

the first of April. Last year the latter part of the month would not have been too late.

We have determined that we will do this: Next year we will set the bees out the first of April, if the weather is suitable; and if it should turn cold we will put them back in the cellar and keep them there till it moderates again. From Editorial in Gleanings in Bee-Culture.

Split Hickory Vehicles—The Split Hickory Vehicle advertisement of the Ohio Carriage Mfg. Co., of Cincinnati, is still running in our columns. We do not know how many of our readers have availed themselves of the generous offer of the Company to sell one of their buggies on 30 days' free trial, to be paid for if approved, or to be returned without obligation or cost if not satisfactory. Certainly, the proposition must appeal strongly to them. The vehicles turned out by this company have a wide use and popularity, and the free trial plan of selling enables the proposed purchaser to examine and test thoroughly at his leisure, and to be thereafter guided solely by his own judgment as to whether he shall purchase or not. Coupled with the above is one other decided advantage, that of buying direct from the factory and saving the profits which necessarily go to middlemen in making purchases through dealers or local agencies. If the vehicle problem confronts any of our readers they would do well to write for the Company's free illustrated catalog. Look up the advertisement, and kindly mention this paper when writing.

BOYS WE WANT WORKERS

Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

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California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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"What Happened to Ted"

BY ISABELLE HORTON.

This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address,

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Please mention Bee Journal when writing.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

Note.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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144 & 146 Erie Street, - CHICAGO, ILL.

Wanted Comb and Extracted Honey!

State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., Chicago
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Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

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The standard strain of yellow-banded bees. All select-tested Queens. Each, $1.00. Ready to mail June 1. Cat. free.

HENRY ALLEY,
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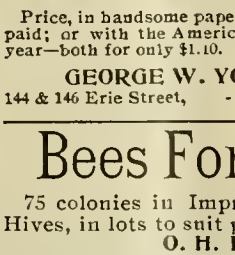
Standard Belgian Hare Book!

BY M. D. CAPPS.



THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

Price, in handsome paper cover, 25 cents, postpaid; or with the American Bee Journal one year—both for only $1.10.

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Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

O. H. HYATT,
13Atf Shenandoah, Page Co., Iowa.
Please mention Bee Journal when writing.

HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, June 7.—The honey market is in a waiting attitude; there is more comb on sale than for several Junes of recent years; most of it is out of condition from one cause and another, chiefly by having grained; therefore a very light yield this year would not help the crop now on hand of last year. Prices are without special change in either comb or extracted honey from those given last. Consumers are not in the market for other than small lots. Beeswax is very scarce and brings 32c upon arrival. R. A. Burnett & Co.

Cincinnati, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.

The Fred W. Muth Co.

Albany, N.Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6½c. Beeswax, good demand, 30@31c.

H. R. Wright.

Detroit, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. Hunt & Son.

New York, May 19.—There is a limited demand for comb honey and prices range as follows: Fancy white, 14c; No. 1, white, 13c; amber, 11@12c; no buckwheat or dark on the market and no more demand for any. Market on extracted remains very inactive. Plenty of supply with only fair demand. We quote: white, 5½@5¾c; light amber, 5@5¼c; southern, in barrels, 50@55c gallon. Beeswax firm at from 30@32c pound, according to quality.

Hildreth & Segelken.

Cincinnati, June 7.—There is hardly any change in the honey market. Comb is not moving much, and whatever is left can be bought at cut rates. Water-white is selling from 14@15c. Extracted is in fair demand and finds steady sales, in barrels, 5@5½c; water-white alfalfa from 6@6½c; white clover from 6½@7c. Beeswax is coming in more freely and sells for 28c. C. H. W. Weber.

San Francisco, May 14.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Spot stocks are not of heavy volume, but there is more offering than can be accommodated with prompt custom at full current rates. Business now doing is mostly of a light jobbing character on local account.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., Cincinnati, Ohio.

21Atf Mention the American Bee Journal.

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.
Please mention Bee Journal when writing.

BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES

Everything used by bee-keepers.
POUDER'S HONEY-JARS. Prompt service. Low Freight Rates.
NEW CATALOG FREE.

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BEE-KEEPERS,
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☞ Our goods are guaranteed of superior quality in every way.
Send for our large illustrated catalog, and copy of
THE AMERICAN BEE-KEEPER,
a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)

☞ W. M. GERRISH, E. Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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$300,000,000.00 A YEAR and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.

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$19.00 to Boston and Return $19.00 via Nickel Plate Road, account of meeting of Christian Scientists, June 15th to 18th. Tickets on sale June 12th, 13th and 14th, with open return limit of June 21st. By depositing tickets with joint agent in Boston on or before June 21st, extended limit returning until July 31st may be obtained. Three trains daily. Through vestibuled sleeping-cars. American Club Meals served in dining-cars on Nickel Plate Road; also meals *a la* Carte. Address John Y. Calahan, General Agent, 111 Adams St., Chicago, for reservation of sleeping-car space and other information.
8—23A2t

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st
Send for circular.
JOHN M. DAVIS,
14A26t SPRING HILL, TENN.
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If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.25 to
Prof. A. J. Cook, Claremont, Cal.,
—FOR HIS—
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.
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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.
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25th Year Dadant's Foundation 25th Year

We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

Bee-Keepers' Supplies OF ALL KINDS *****

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....
CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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THE DANZENBAKER HIVE

The best comb-honey hive on the market may be obtained of The A. I. Root Co., of Medina, Ohio; at any of their branch houses, and many of their local and jobbing agencies. Send to the address nearest you, and save freight, and get quick delivery.

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National Bee-Keepers' Convention at Denver, Sept. 3-5, '02

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JUNE 19, 1902.

FORTY-SECOND YEAR
No. 25.

WEEKLY

Interior View.

Exterior View.

CAVE BEE-CELLAR OF C. H. PIERCE.—(See page 391.)

THE AMERICAN BEE JOURNAL

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DEPT. EDITORS.— Dr. C. C. Miller, E. E. Hasty.
SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JUNE 19, 1902. No. 25.

Editorial Comments.

General Manager of the National.—We have received the following announcement from Acting Chairman E. R. Root, which is self-explanatory:

EUGENE SECOR STILL GENERAL MANAGER OF THE NATIONAL BEE-KEEPERS' ASSOCIATION.

Some little time ago it was announced that Mr. Eugene Secor, General Manager of the National Bee-Keepers' Association, had sent in his resignation, and that the Board of Directors had selected E. T. Abbott, of St. Joseph, Mo., to fill out his unexpired term. But the Board, in reviewing its work, after a great deal of writing back and forth, during which valuable time has been lost, finally discovered that Mr. Secor's resignation was never formally accepted; that the procedure was irregular and out of order by which Mr. Abbott was supposed to be elected. Some complications having arisen, it was decided by the Board not to accept Mr. Secor's resignation, and to request him to fill out the unexpired time, or till the next general election. To this Mr. Secor has agreed. All dues and membership fees, hereafter, should be sent, as before, to Mr. Eugene Secor, Forest City, Iowa, who is still the General Manager, and will continue to be such till his successor is elected and qualified.

E. R. ROOT,
Acting Chairman of Board of Directors.

The Honey Crop of 1902.—Editor Root says in reference to this:

From various letters that we have received from the southern counties, I am now convinced that this will be an off year, and that California will not cut much of a figure in the Eastern markets. There will be some honey, of course; but it will make no great flurry, and therefore prices all through the United States ought to be and will be reasonably firm.

There are some other reports from the East that indicate that the season has been very backward. It has been very much so in this locality. It has been cold and chilly. Brood-rearing has been held in check, and the bees are "snappy." Mr. Doolittle says the season has been very discouraging in his locality; and so, taking it all in all, there ought to be a general toning of prices, East as well as West.

Hon. J. M. Hambaugh, Foul Brood Inspector for San Diego Co., Calif., wrote June 4 as follows concerning the honey crop prospects in his locality:

"There has been no rain since my last. Bees are doing practically nothing. The crop is paralyzed, and our countenances elongated. Barber's fees exorbitant! Send us a fan! I am very confident if you were depending on this locality for your honey to speculate on, the demand would exceed the supply, and the 'bulls' would be on top."

The foregoing is certainly discouraging for some California bee-keepers. We hope it is not general throughout the State. We would like to see California have a good average crop this year. Of course, we wouldn't want her to have so much honey that the price would be lowered to almost nothing—she wouldn't want that herself. But it would be encouraging to her many excellent bee-keepers if they could all average say 100 pounds to the colony.

There is no disputing the fact that in northern Illinois the season up to the first of June has been one of discouragement; and now when white clover has been in bloom a number of days, and honey should be going into the supers at a lively rate, the bees in some cases must be fed to prevent starvation. But there is no need to give up in despair, if only the colonies are strong. There have been seasons when bees were starving in the first half of June, and yet conditions changed and a good crop was secured. It must be admitted, however, that there have been seasons in which white clover abounded, and yet the bees seemed to get no nectar from it.

Cutting Out Drone-Comb has been recommended to aid in preventing swarming. On the contrary, Rud. Dathe (Centralblatt) says it hastens swarming, for the vacancy thus made gives a more convenient place for starting queen-cells.

Quality of Queens Reared in Cell-Cups.—Arthur C. Miller having said in Gleanings in Bee-Culture that since the introduction of the cell-cup plan there were increased reports of inferior queens, G. M. Doolittle replies in the same periodical:

"Yes. I noticed what Mr. Miller had to say in this matter; and my mind went back to the early 80's, when Mr. Alley's book on queen-rearing came out. I have been a careful reader of our bee-papers, and have noted many things; and one of the things which I have noted is that, in *proportion to those buying queens*, there are not nearly so many reports of poor queens to-day as there were during the 80's. In other words, the reports of poor queens are little if any greater now than were such reports during the 80's, while the queen-traffic of to-day has reached gigantic proportions beside what it was then. This shows that the cell-cup plan has been a success beyond anything previously known, does it not?"

Hiving Swarms With Dynamite.—Mr. Adrian Getaz sends us the following sad account of an attempt to hive a swarm of bees with the use of dynamite, as given in a Knoxville, Tenn., newspaper, dated June 6:

While attempting to hive a swarm of bees at his home on the Sevierville pike, six miles southeast of the city, Thursday afternoon, Matt Lopasser, a farmer, suffered the loss of his right arm near the elbow, several injuries about his face and body, and internal injuries which may result fatally.

Lopasser had been experiencing some difficulty in hiving a large swarm by the usual methods of beating on tin cans, ringing bells, throwing water on the bees, and others commonly in use. He secured several sticks of dynamite, and had been exploding these near the bees, thinking that the jar would cause them to settle, and hiving them would then be an easy process. A stick of dynamite which Lopasser was intending to throw among the bees, exploded prematurely before leaving his hand, and his right arm and hand were blown off below the elbow. His face was badly bruised and torn by the explosion, and it is believed that he

also suffered internal injuries which may result in his death.

Lopasser was rendered unconscious by the explosion, and was picked up and carried into his home, where medical aid was summoned. Physicians who attended the injured man pronounced his injuries of a very serious nature, apt to result fatally. Lopasser is yet very nervous from the shock given his physical system, and is suffering intense pain. He is known to many people in this city, and has the heartfelt sympathy of many friends.

We hope that no one else will ever be so foolish as to try to use dynamite to make a swarm of bees settle. About the only thing likely to be "settled" is the bee-keeper himself, as was Lopasser. Of course, we are all sorry for him, though no one will be able to understand how he could take such a fearful risk.

Cover Over Super.—"A Reader" sends the following clipping:

There is nothing better than enamel cloth over sections when on the hive. The bees do not glue it so tight as they do a board, and if you wish to see how the bees are progressing, just fold back one corner and peep in, keeping the bees back with a little smoke. With a board, one is compelled to open the whole top at once, and the bees rush out all over, and when putting the board on you are apt to kill some of them.

There is room for division of opinion, and some who have thoroughly tried enamel cloth over sections are emphatic in their preference for a board cover with an air-space. It is true that with the enamel cloth you can uncover only a small part of the sections while with the board cover the whole must be uncovered. But does it often happen that one wants only a corner uncovered? and will not the smoke that keeps the bees back when a corner is opened also keep them back when the cover is entirely removed? Of course, it will take more smoke for the whole than for a part.

That when enamel cloth is used "the bees do not glue it so tight as they do a board," is apparent rather than real. As a matter of fact, the cloth is glued down tighter than the board cover, but it is easier to remove, because the peeling off of the cloth raises only a small portion at a time. But a good deal more glue will be found in case of the cloth as compared with the board. Wherever the cloth touches the sections the bees will put propolis, and they will push up the cloth to crowd in the propolis, so that the tops of the sections will be much cleaner under the board.

An occasional thing that is perhaps the worst feature in the case is that the bees sometimes take the black matter that forms the surface of the enamel cloth, and incorporate it in the beautiful white cappings of the sections. But that does not often happen.

Keeping Honey in a Refrigerator.—A clipping received contains the excellent advice to keep honey in a hot and dry place, saying: "It should never be put in a cellar or refrigerator, for the honey will absorb moisture, become thin, watery and sour." There could hardly be a worse place to keep honey than in a cellar, unless it should be in a climate where cellars are remarkably dry, but it is not safe to jump to the conclusion that because the air in a refrigerator is cold the matter of moisture would be the same as in a cellar. The women-folks will tell you that cake and other things put in a refrigerator will dry up. Why not honey?

Annual Consumption of Honey Per Colony.—Adrian Getaz figured this at 200 pounds. Editor Root thinks it would hardly amount to more than 100 pounds in his locality, but admits the possibility of its being 150 or 200 pounds in localities farther south, where bees are active throughout a greater portion of the year.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 374.)

BEST RETAIL PACKAGE FOR HONEY.

"What is the best retail package for extracted honey to be sold in a grocery trade?"

A Member—Mr. Walker can answer that, as he knows more about this than any one else.

Pres. York—I suppose what is meant is the material to be used, size, etc.

Mr. Horstmann—I would consider one-pound jars to be the best.

Mr. Walker—I wish to take exception to that. In speaking of the Chicago market, one-pound jars are altogether too large for ready sale. Three-fourths pound is far better; there is five times as much handled in ¾-pound jars as in one-pound. The average consumer doesn't want to put more than 15 cents into honey at a time, and a good many only want to put 10 cents in. Though I have used tin a great deal to put up honey, I find that at present there is very little demand for anything put up in tin. I think the 10 and 15 cent packages cover the ground pretty fully. We have some demand for large packages, but not very much.

SHIPPING COMB HONEY.

"What is the best way to ship comb honey long distances?"

Mr. Riker—By freight, and have it smashed up; it is pretty well smashed up when it gets to the commission men anyway you ship it.

Mr. Johansen—I have read that in order to ship honey long distances you would have to put top and bottom starters in the section, otherwise the combs will break. If there is any one who has had experience in shipping honey long distances, and there is a way to fix the sections, that is what I want to know.

Pres. York—That is a good way to begin, to put in top and bottom foundation starters. But I supposed the question had reference to the way it should be packed.

Mr. Moore—I would like to sum up this question of shipping comb honey; my experience runs back 15 years. I can remember the first comb honey ever shipped to me, in tight boxes two feet square. I suppose it went end over end, and every time it came down it went smash; the honey was running out at every corner when it got to me. I think it was about four years ago that I first heard of the very best way to ship comb honey. To ship comb honey safely, you want to begin right back to where Mr. Johansen suggested, by putting in starters, so that the combs will be built better; and don't ship any combs except those that are fastened well to the wood. There is just one way to ship comb honey so that it will always get there right, that is, to make a crate to hold six or nine 24-pound shipping cases, with handles the whole length of the crate, so that two men can take hold, one at each end, and carry it out of the car without dropping it or kicking it around, or dumping it down. I have seen persons handle large amounts and not have a section break. As I understand it, that is the only way to ship comb honey.

Mr. Johansen—I want to ask about the handles.

Mr. Moore—They should be at the top of the box. You go down to Mr. Burnett's and ask him to show you what he considers an up-to-date crate for shipping honey; in a glance you will see the whole thing. The honey that is being shipped that way comes almost invariably safely, and every day honey shipped the other way comes smashed up like pie would be if shipped, and in very bad shape.

Mr. Dadant—I want to tell you a little story in regard to shipping comb honey with handles on the boxes, that two men can catch hold of and carry. We struck that idea when we first shipped comb honey, 35 years ago. We

used to ship our honey to St. Louis on the steamboats on the Mississippi in the river boats, and we didn't go along, and could not understand why our honey should arrive broken. After three or four years of more or less failure, I went down with some honey, and found out that those big, strong darkies—those roust-abouts—didn't think that it was worth while for two men to take hold, and one man took the whole thing on his shoulder and dropped it down when he got to the place where it was to be deposited, and usually broke every comb; that is all the good the handles did.

Mr. Purple—Mr. Dadant didn't make it heavy enough. If made like Mr. Moore said, two or three hundred pounds, they could not then pick it up in that way; it would take two men to pick that up.

Mr. Johansen—I want to know more about the starters in the sections. If the sections are filled with starters all through, wouldn't that be damaged by the sealing of the honey; would that be pleasant for the persons who eat it, if they found wax right in the middle of that section? Has any one had experience in that line?

Dr. Miller—I might say in answer to that, for a great many years I have filled sections almost literally full—a foundation starter at top and bottom, a little more than half an inch wide at the bottom, and the starter from the top coming down so they almost meet, making foundation from top to bottom when finished, and I never had any complaint about it. It tastes all right; I have no objection to it, nor my family. I suppose if you used a foundation heavy enough there might be trouble, but using a foundation as light as thin foundation—not extra thin—you would have no difficulty. I usually use the same grade top and bottom. If I thought it advisable to use the extra thin at the top, I should simply use the thin for the bottom, because the extra thin I should think would fall down.

WORKING UP A PAYING HONEY-TRADE.

"What is the best plan for working up a paying demand for honey in a city market?"

Pres. York—Mr. Moore ought to be able to give us something on that.

Mr. Moore—I have nothing to say, Mr. President. Why, a question like that is a little like a question I put in one time to make fun, and I was never more pleased with myself in my life than with the result of that question. I had a lot of fun over it. There was one question put in which I didn't give at all, and Dr. Miller answered that very finely. He said, "That is the Secretary who put in that question." Then when my question did really come along the Doctor gave us the finest talk of his life, but I was not blamed for it! But this question is like, "How shall I make money in Chicago?"

Pres. York—Sell honey. (Laughter.)

Mr. Moore—It is a lifetime business. Above all, it means to get out and get acquainted with people you are going to sell honey to, and that, it seems to me, is a settler of the whole question. Get out and see them; go up and down the streets and get acquainted with people day after day, month after month, and year after year. If you are an honest man, and have good things, good goods, they will swear by you, and that is the way, the only way, to make a market for anything in this 20th Century. You can stand here and talk a week and not cover the subject, but I believe if you have the hustle in you, and energy, and go where there are lots of people, like in Chicago, and have a good article of honey, and will get out and keep at it, you will make a success. It is the eternally and everlastingly keeping at it; no matter if you don't sell this time you will another. Don't slam the door if you don't get an order. Just close it gently; give everybody a kind word. They will say, "That is funny; that fellow shut the door gently and I didn't give him an order." You might say the same thing of the honey trade as of the hardware trade. Give good goods, and charge good prices for it; you don't gain either respect or money by selling things cheap.

Pres. York—I think Mr. Moore has reference to family trade; what about working up a demand in any other way?

A Member—Get an office on South Water Street.

Mr. Horstmann—I have been very successful in getting rid of my honey, and about 500 pounds of a friend's honey. I have my apiary right in the yard where everybody can see it, and I keep it as neat as I can. I have the hives nicely painted. People passing on the street can see it; some call it a graveyard, and others something else other than bee-hives. It is an advertisement for me. They learn that honey is produced there, and they come right to the house and get it. I sold over 2000 pounds of honey without canvassing. Next year, if I have success, I expect to produce close to two tons, and I believe I will sell it all in the same way. You ought to have your apiary in as neat appearance as possible; that is what I try to do, so as to attract attention. People will see the hives and begin to talk about them; they will know that honey is produced there. Sell them a good article, and they will come back. If anybody comes around I always show them my apiary, and talk about bees. I think I am known for miles around for selling honey. I have sold my section honey for 20 cents a section, or six for a dollar. My extracted honey I sell for 10 cents a pound, the customers bringing their jars and get them full. I have had no trouble whatever in getting rid of my honey. I think I will have to buy some from somebody in order to supply my customers.

Mr. Moore—I would like to hear from Mr. Dadant; he told the story about selling nearly $10,000 worth of honey in olden times. I would like to have him tell that.

Mr. Dadant—I wish I had a copy of the story, so I could tell the same one. I don't know exactly what I did say.

Mr. Moore—You told how you sold extracted honey in olden days, up and down the river to the boatmen.

Mr. Dadant—The first honey we sold was comb honey, and we shipped it to St. Louis; then we began extracting, in 1869, I believe. The only persons selling then were the drugstore keepers; they sold two or three ounce bottles for sick people. When I went to the drug-store to offer some nice clover honey for sale, they had never seen anything but strained honey; they said they didn't want that, it was too nice. They thought it was sugar syrup, I suppose. We put our honey up then in 10-pound tin cans. We had been transporting comb honey to St. Louis, shipping it on the boats, and the boatmen all knew us. When they found we were shipping honey in 10-pound cans to St. Louis, the boatmen wanted some. We sold about 1200 pounds of honey to boatmen at Keokuk, Iowa. We sold a great deal of honey in 10-pound cans; then we got up the 5-pound, 2½-pound, and 1¼-pound, and we stopped there, and now people want us to sell it in ½-pound cans. We have not come to that yet, but I suppose we will have to. All we have to say in our neighborhood is, "Mr. Dadant has some honey to sell," and that is all that the man I have who draws out honey for me has to say, and they give him an order; he has placed in the city of Keokuk about 1300 pounds in a half day; everybody tells him, "Your packages are too large." After a while the people will do as they do in Paris. There they take their salad-dish to the store, and get one cent's worth of salad-dressing at a time, and one cent's worth of oil, pepper and salt to dress the salad. I doubt that we will get that low. The time probably will come when we will have to sell it in ½-pound cans. I think we will have to come to using glass for putting up small packages of honey; 1¼-pound tin cans are nearly as expensive as glass, and the tin doesn't look so nice. But to sell honey, as these gentlemen say, you have to be known; make yourself known to people; you have to hang on, keep hammering at it; don't get discouraged; keep fighting and disputing. Don't be afraid when people say your honey is adulterated. Don't be afraid to fight; I do some hard fighting when they say my honey is not pure, and generally I convince them that it is pure. I had a gentleman say to me once that my honey was not pure. I told him he didn't know what he was talking about, and I knew that he didn't know, and that he certainly must know himself that he didn't know. I convinced him that my honey was absolutely pure, and he never doubted my word after that, and was very nice to me, although I called him a fool.

(Continued next week.)

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

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Contributed Articles.

CS_2

BY PROF. A. J. COOK.

To the one who has never looked into chemical science at all, the above will suggest a rebus, and he will whisper something like seeing crooked twice. But how inappropriate! for the bee-keepers who read our "old reliable" American Bee Journal, I take it, rarely see crooked even once. To the one who has looked but little into the marvels of modern chemistry, C suggests Carbon—that which forms much of gun-powder, most of coal, and nearly all of graphite, and all of the diamond. S also recalls Sulphur, the same that coats the end of the match. And CS_2 means to him Bisulphide of Carbon, or carbon bisulphide. The 2 indicates that in a molecule of the liquid there are two atoms of sulphur to every one of carbon; hence the word bi-sulphide. I have been thus explicit as this susbtance is coming to have a very important place in our fighting of insects. The bee-keeper finds it more pleasant to use in protecting against the bee-moth than is the sulphur alone. And so, before long, sulphuring will very likely be entirely superseded by sulphiding, which, by the way, is a newly-coined word, and will not be found, I take it, in the dictionaries.

The old-time use for this liquid was almost wholly as a solvent of rubber, and so the unpleasant odor of the vapor was rarely met except in the presence of the cobbler, who used it to form his rubber patch to shoe or boot.

The man in our country who has made the bulk of this liquid is Mr. Edward Taylor, formerly of Ohio. I visited this plant some years ago, and was much interested in his work and explanation of how he had improved the process of manufacture. He now makes it by a new electric process, which he has patented, and his factory in New York State is said to turn out 20,000 pounds daily.

It is made by passing the fumes of burning sulphur over red-hot charcoal. The gases of the two unite to form a vapor which cools into a liquid, and this is CS_2. This has a specific gravity of 1.29 at 30 degrees Fahr. It is exceedingly volatile, and when turned onto one's hand cools it greatly by the rapid evaporation. Of course, it will evaporate more rapidly in a warm atmosphere, and when a large surface is exposed. If we throw a spray into a room the evaporation would be almost instantaneous. As it is one-fourth heavier than water, a little water turned into a vessel containing it will largely prevent evaporation, as the water remains at the top. Of course, it must be kept in perfectly close or well-stopped vessels, or when we go for it we will be met by emptiness, as have many druggists of whom I have essayed to purchase a little to use in illustrating a lecture.

The usual bisulphide is not quite pure, and is sold as "Fuma Carbon Bisulphide," a quite appropriate name, as the disagreeable odor comes wholly from the impurities. When perfectly pure it is colorless as water, has a slightly acid taste and a sweetish odor, reminding one of that of ether and chloroform. When perfectly pure it can be poured on the most delicate fabrics, or on flour, and it will very soon evaporate wholly and leave not the faintest show of its previous presence.

The "fuma bisulphide" is slightly yellowish, and will, because of the impurities, often leave a stain, and so its use must be guarded. The vapor will not stain, and so in its use we are safe, if we do not pour the liquid on the cloth or food products. I use it much in ridding my insect cabinets of other insects that are lured to eat them up. I put the cases into the box, close it hermetically by shutting the cover on rubber, and then pour the liquid through an uncorked opening into the box, so that only the vapors strike insect or the paper lining the bottom of the cases.

The vapor which can be detected in all parts of a large room almost immediately after spilling a few drops, is 2.63 times heavier than air, so it of course tends to settle. Thus, unless we use enough to saturate a box or room, the lower portion will be much more dense. This is an important fact to remember.

With care there is no danger in breathing this gas or the vapor. If we are confined in it for long it results in dizziness, nausea, extreme congestion, insensibility, and death. In filling a mill which it is desired to rid of insects with its vapors, one may suffer considerable inconvenience if they fill from the top to the bottom, while by going from the bottom to the top, no trouble will be experienced. In this case one leaves from an upper window. It acts quite energetically on the heart, so those with weak hearts should use it with extreme caution.

We should always remember in using this substance that the vapors are explosive and very inflammable. A lighted cigar or match in a room containing the vapors would result very seriously. We must use the same caution as we would in using gasoline or napthaline.

Bisulphide of carbon is now used in killing ants in their under-ground tunnels, as I have often described; in killing other subterraneous insects; in destroying insects in mills, warehouses, etc.; weevils in peas, beans, etc.; in destroying moths and beetles that eat our silk and woolen clothing; to some extent in killing insects on living plants by covering with close tent or box; and, last, in protecting our honey from the ravages of the bee-moth. It has strong disinfecting power. Meat will keep in its vapor.

USE TO PROTECT COMBS.

To destroy the bee-moth larvæ or caterpillars, we have only to turn the liquid into a close box containing the affected or suspected combs to be treated in a perfectly air-tight enclosure. One pound is ample for 1000 cubic feet, or a room 10 feet each way; so we see it is not expensive. We must remember, however, to keep the cork—rubber corks should not be used—in the bottle or can holding the liquid.

It can be used with so much less trouble and danger than is required to fumigate by burning sulphur, that I feel sure its use is to become well-nigh universal.

The two cautions to be emphasized are: Be wary of fire; and exercise caution in reference to breathing the vapors.

Los Angeles Co., Calif.

No. 3.—Rearing Long-Lived Queens and Bees.

BY DR. E. GALLUP.

Nearly 40 years ago, or the next season after I moved into Iowa, I had some horses stray away, so I went to hunt them. After finding them it was so late that I dared not venture across the open prairie, so I sought a place to stay over night. I found a man that had some 20 colonies of bees in box-hives, all with large clusters of bees hanging on the outside. This was in July. So I made arrangements with him to stay over night, and in the morning I drummed out a swarm of bees, and explained all the paraphernalia of making artificial swarms, all of which was new to him.

In the course of our conversation he wanted to know whether a colony could be transferred from a log to a hive. He said he had a near neighbor that would give $5.00 to any one that would do it for him. So we went over to the neighbor's, and he had a basswood log with a big colony of bees in it. The log was sbout six feet high, and had two hollow branches about 12 inches high above the main log. The log was nearly 18 inches in the clear inside the hollow, completely filled from top to bottom. So you can judge that it was a very large colony of bees, and I was the very chap to tackle them.

They could not see how I was going to manage them without getting stung very badly. The first drumming I got out a half-bushel measure full of bees, but no queen. She probably went up into the other branch. He had movable-comb Langstroth hives with bees in them, so I went to one of them and took out the queen and gave to the half-bushel of bees. In due time I hived them. I turned down the log, sawed it in two in the middle, turned the top half upside down, drummed out another half-bushel of bees, and this time I got the queen, so we had two large colonies of bees, and comb, brood and stores enough for two more colonies in 21 days.

I explained everything to them so they could transfer and fix all up in 21 days. I explained what the bees would do for a queen in the hive where I took the queen away.

In sawing the log in two I discovered one large queen-cell in the top half, and two in the bottom half. We cut one loose from the comb and it fell on the ground. I dissected that cell from the base carefully, and made what to me was a great discovery at that time.

I explained to Mr. Drake how to give one of those sealed cells to the queenless colony in 24 hours; told him how to handle it carefully, etc. He met with perfect success with

all my instructions, and had four excellent colonies; all wintered and came out strong in the spring. No spring dwindling there, you bet, as their queens and bees were the long-lived variety. Why? Because the queens were naturally reared at superseding time.

Mr. Drake had that log in his yard five years, and no knowing how long they had been there before he found it; and it had not swarmed in all that time. It would probably have taken 8 or 10 queens, such as we usually get, to keep the number of bees that were in that log, and 20 queens such as I have received would not do it.

That discovery I will explain farther on, probably in my next article.

A writer some time ago in the American Bee Journal said that he had purchased lots of queens, and but very few lasted one year; 80 percent of the very light-colored ones died the first winter, and none gave the satisfaction of those of his own rearing. I can fully endorse what that writer says; it is utterly impossible to receive the profit from such short-lived, worthless queens that one can from one long-lived, properly reared one; and the former are a loss to the party introducing them, every time.

In olden times we every now and then heard of some one discovering a tremendous colony of bees in a cave, so numerous that they in flying out and in darkened and obscured the sun. Well, there may be a grain of truth in such stories as well as several grains of imagination or falsehood. No one that has not seen as large colonies as I heretofore have mentioned—the basswood log, the colony that I saw taken out of a large dry-goods box at Decorah, Iowa, and my large hive, four times the capacity of a standard 10-frame Langstroth hive, where the bees have been in long enough to rear queens to suit the capacity of the hive—can realize the number of bees that one queen can rear, and that workers will live to be four months old in the working season instead of 30 days, as is the case of three months'-old queens and their workers. Now, by rearing your cheap, inferior queens in a very unnatural manner, you have shortened the life of the queen from 4, 5 and 6 years to from 3 to 18 months. You have shortened the life of the workers in proportion, consequently lessened the production; you have also lessened the vitality.

Last season I ordered 12 untested queens from six different breeders; some of them I received quite late in the season. One received late in May was superseded the first of September. Two reared paralyzed brood; two had winter dwindling—what our Eastern bee-keepers call "spring dwindling."

I sold 10 colonies this spring, and kept two and one black nucleus. One of the Italian colonies is summer dwindling now, that is, the bees are dying off with old age as fast as the queen can supply the loss. She is fairly prolific, but the deaths keep about even with the births. The other is a fairly average colony. The black nucleus has built up to a good colony, having a two-story hive completely filled. It was a starved-out swarm that I picked up last fall, and gave them three frames of comb and two combs filled with honey, one on each side of the empty combs. They went right to breeding, and bred all winter.

A neighbor has 12 colonies, or swarms that he picked up, the first one a very small one taken out of a house, and it is small yet and always will be, as it was somebody's starved-out cheap Italian queen, from all appearances. The bees die of old age as fast as the queen supplies their places; she will never fill the hive. Orange Co., Calif.

(To be continued.)

A Bee-Cellar Blasted from the Rock.

Read at the Wisconsin State Convention, held in February, 1902,

BY C. H. PIERCE.

My apiary at Kilbourn is situated at the east end of sandstone bluff, said bluff fronting the Wisconsin river at The Dells, and running due east about 80 rods. The east end of the bluff, where my yard is situated, is about 25 feet above the general level of the ground.

I began at the ground level and dug a trench to the face of the bluff, about 20 feet long, and 6 feet wide. The earth, next to the rock or bluff, was about 8 feet in depth. I then began and blasted out a tunnel, with dynamite, 4 feet in width 6 feet in length, and 6½ feet in heighth. Then putting the charges in the corners, I widened the tunnel to 8 feet in width and 12 feet in length, making a room 8 x 12 feet.

The rock, being soft sandstone, went all into sand at each blast, for a space of about 1 to 1½ feet each side of the drill-hole, and as deep as the drill-hole, generally from 24 to 36 inches. We then shoveled the sand into a wheelbarrow and wheeled it outside. The cellar went in very quickly and very cheaply—I believe the last 3 feet we went into cost about $2.00 for material, sharpening tools, etc.

Two men who understand blasting could very easily go in 3 feet or more in a day.

There are three doors leading into the cellar, also 2 ventilators—one ventilator that brings in fresh air from inside the second door, starts from the floor, and passing into the cellar and escaping near the ceiling; and one for foul air, starting from about one foot from the floor near the center of the cellar, going to the ceiling and passing out-of-doors. There is a door in the foul-air ventilator near the ceiling that can be opened when the air in the cellar becomes too warm.

Last winter I had but 2 doors and 4 inch ventilators, this winter I have 3 doors and 8 inch ventilators.

Now as to its merits as a place to winter bees: Being but the second winter it is hardly a fair test, however. Last winter I put in 30 colonies, 4 of them nuclei on 3 frames. A few days after being put in, the thermometer in the cellar stood at 48 degrees; it gradually went down until the lowest point reached was 39.

There was considerable moisture in the cellar, showing in drops on the ceiling, dead bees in the hive-entrances and on the floor showing mouldy; a long, hairy mould on the door-jambs and ventilators, but apparently no moisture inside the hives. I removed the bees from the cellar April 1, all in excellent condition, with no loss.

This winter I have 57 colonies, 16 of them nuclei on 4 frames. They were put in November 16. A few days after being put in the thermometer stood at 47; lowest point reached so far 43. January 20 the bees were quiet and all doing well. There is very little moisture to be seen this winter; no drops upon the ceiling; scarcely any mould to be seen; moisture shows some upon the inner door, which is painted; also the ventilators feel damp. I lay the little appearance of moisture to the third door and the larger ventilators.

I winter my bees with hive bottom-boards on and no covers. I leave the queen-excluders on for a bee-space over the combs. In the place of covers I put on 2 thickness of a grain bag—a bag cut in two in the middle makes a cover for 2 ten-frame hives.

The hives are tiered up in the cellar with 2-inch strips across the top of each hive, for ventilation.

I expect next fall to widen the tunnel of the cellar where the doors are situated, to 8 feet, the same as the main room; then widen the trench and build two stone walls, with timbers across the top, some porous material on the top of the timbers, and dirt over all, with a board roof over the dirt, giving about ⅓ of the cellar a porous roof. This will allow all moisture to escape, and, I believe, make a perfect wintering-place for the bees. Dane Co., Wis.

Making Rapid Increase of Colonies.

BY MRS. F. S. A. SNYDER.

If you have only one colony and wish to increase to 4, just as early as possible begin to feed, and it will pay you to buy a few pounds of extracted honey and feed through a feeder all they will consume. I say extracted honey because bees will decline to store sugar syrup just as soon as the nectar-yields begins. I have experienced this repeatedly, and I think uncapped frames placed in brood-chamber invariably cools the brood and retards hatching.

Now, when the hive is just boiling over with bees, honey and brood, make a box exactly the length of the hive you use, and just wide and deep enough to hold 5 of the frames. Place 5 of the frames containing the most brood, bees and all, in the box, and shake the balance of the bees on a white cloth at the entrance of the box, or really contracted hive, thus crowding all the bees and the queen in on the 5 frames, and close them down with a bee-quilt and one or two newspapers over the quilt, and cover up warm.

Take the 3 remaining frames with the old hive and keep in a warm room with division-boards and a thick blanket—anything to keep the brood from chilling. This is best done just at the commencement of the honey-yield, and if you open the contracted hive with the 5 frames and all the bees and queen towards the evening of the following day, you will be surprised to find from 30 to 40 queen-cells started; mine started 46 in one night.

Now remove the contracted hive off the old stand, and

place the hive with 2 of the 3 combs with no brood, or as little as possible, on the old stand, and let the worker-bees return to it. Now catch the queen and place her with the worker-bees. This makes one colony by adding either combs of foundation, or built-out combs, if you have them.

Now you have 6 frames or combs full of brood, and queen-cells started under the swarming impulse. Place 2 combs each in 3 nuclei hives with division-boards, and by feeding and adding new combs by degrees you will soon have 4 strong colonies. If you have more than one hive you can place the 3 remaining combs over a strong colony, and then it might be better to keep the bees in the contracted hive on the 5 frames for say 3 days, until the queen-cells were more fully matured before returning the queen and worker-bees on 2 or more frames to the old stand; though you must watch them closely or they will swarm out, leaving the completion of the cells to the nurse-bees.

If you have 10 or more colonies you could take 2 frames of brood from each hive and thus utilize the queen-cells before they hatch out, place the remainder of the queen-cells one in each cage in a frame with a little cream candy made of confectioners' sugar and honey, and mixed very thick; put a little of the candy in the corner of each cage, and a queenless nucleus will care for and feed 21 queens. Thus you will have an extra queen to replace any losses during marriage-flight.

If you have more than one colony, and want to stimulate by feeding, close the entrance of each hive to the size of one bee, then tack wire-net right over the entrance, leaving the entrance through the wire at the end. I place the wire-netting right over the entrance. Now have two sticks an inch wide and just the length of the width of the hive, and tack the sticks over the wire, thus keeping it in place. Now tack one end and leave the other end open, just the size of one bee. This prevents the bees from taking a noisy flight in the air and proclaiming to the whole apiary that in some mysterious manner their stores have increased; and in their endeavor to find the outlet they quiet down, and thus prevent the robber-bees from gaining an entrance and making havoc among the nuclei before they are strong enough to defend themselves.

Sonoma Co., Calif.

Killing Bees for Tongue-Measuring.

BY PROF. C. P. GILLETTE.

On page 327, my good friend, Prof. Cook, suggests that my method of killing bees by plunging them into boiling water might set the muscles so as to prevent the full extention of the tongue for measurement. The lengths obtained do not indicate that such is the case, and I am quite certain that the hot water has quite the opposite result.

Some years ago, while a student under Prof. Cook, I was making a study of mites and other very small insects that I wished to mount as microscopic objects. In order to have the specimens suitable for examination, it was important that the legs be fully extended, and not curled beneath the body. I was able to find just one method by which this could always be accomplished without injuring the tissues, and that was to thrust the insect into boiling-hot water, or dash the water upon the insect. It was that experience which suggested the hot-water plan of getting the bees' tongues extended to full length for measurement. If hot water caused the contraction of the muscles, it would result in the bending of the joints of both legs and tongue, and these parts would not be perfectly extensible.

And then, one can not very well wait 24 hours for the tongue to die so it will lie still for measurement; and all this time it would have to be kept in a moist place, or it would be in danger of becoming so dried that it would not fully extend.

I also like to be as merciful as possible in handling lower animals for scientific purposes. When the bee is thrust into boiling water it dies about as quickly as if struck with a hammer; but if the head is simply pulled off, the head and body live for hours. Whether or not these severed parts really suffer pain we can not know. The movements which antennæ, mandibles, legs, and wings, still undergo suggest, at least, that sensibility may still be present. The nervous system of the bee is not so centralized in the head as it is in the higher animals.

I am still studying bees' tongues. I have received bees from a goodly number of readers of the American Bee Journal already, but would be glad to receive more. I am specially anxious to have more samples of genuine black bees, of new races of bees, as Carniolans, Cyprians, Syrians, Caucasians; and bees from best and poorest colonies in an apiary. Also bees that are supposed to have specially long tongues. Fifteen or 20 may be put in a queen-cage and sent by mail.

Fort Collins, Colo.

Bee-Keeping for Women—An Experience.

Written for a New York State Farmers' Institute,

BY MRS. C. A. BALL.

In these days when machinery has taken the place of much of the farm labor that used to be employed, and the milk of the dairy is taken to the creamery, instead of being made into butter and cheese at home, the farmers' wives and daughters have been relieved of much of the labor and care that fell to their lot under former conditions. Yet there is enough to do in every farmers' home; and the round of duties is so nearly the same each day that the monotony becomes a weariness, and some kind of business to occupy a part of the time may prove a diversion, and help earn a little pin-money besides; and it seems to me that keeping a few bees would be a great help.

The other day a gentleman said to me, "Who takes care of your bees for you?" I replied, "No one. I take care of them myself." "But," said he, "what do you do when they swarm?" "Why, I hive them," I replied.

"That is strange," he said. "I did not suppose a woman could do that. When I was a boy my father kept bees, and when they swarmed every available man and boy on the place was called upon to help hive them."

I find that this gentleman's opinion of bee-keeping prevails to a great extent; that running an apiary is too hard work for a woman. Yet the work is no harder than much that falls ordinarily to our lot. But whether a woman can successfully run an apiary depends upon the person herself. A delicate, sickly woman would need some help, but one in ordinary health can do it alone if she is interested in the work. And right here I wish to say if your bees do not possess a fascination for you, you would better let the business alone.

It is like every other business, requiring patient attention to small details. Your bees will not prosper if neglected, any more than other stock. A little care at just the right time may insure a fine yield of honey, or, neglect, a total failure.

For a beginner I would advise starting with one or two colonies, then if you fail the loss will not be so great.

I will give a little of my own experience: In 1895 I bought one colony, for which I paid $6.00. That summer I got 60 pounds of surplus honey, but no swarm. In 1896 that colony cast two swarms and the three gave me over 100 pounds of nice honey. 1897 was a year of swarming, and my colonies increased to 11, but the honey-flow was a short one. Yet the surplus more than paid expenses. 1898 and 1899 were bad years for bee-keepers throughout the country, but 1900 was the most disastrous of all, yet each year my bees gave me some honey.

At the close of the season of 1900 I had 25 colonies, but I was obliged to move that fall and could not pack the bees for winter, and the result was that last spring I found that fifteen colonies had died, leaving me only ten, and of these only two that I considered valuable. Yet they gave me last season between 400 and 500 pounds of honey, and cast five swarms; another swarm came to me, so that at present I have sixteen colonies, all in good condition. The honey I sold for ten, twelve and fifteen cents per pound, the most of it for fifteen cents.

Some of the dark honey I kept to stimulate the colonies in the spring while rearing brood.

And here let me say that it is not the number of colonies that counts, but the number of bees in each colony, and early spring is the time to strengthen so that the hives will be just running over with bees when the honey-flow begins. Then put on the supers and let them work.

With regard to swarming: Prime swarms usually come out from 10 to 2 o'clock and need close watching. I manage the issuing swarm with water, and can drive them so that they will not cluster out of reach. Last summer I used a dipper to throw the water, but a spraying bucket is better.

When the swarm has clustered I take and shake them on a white cloth in front of an empty hive, then may be seen a wonderful sight. A moment after the tumultous fall, you will

see them as if obeying some order, turn their heads toward the entrance of the hive and march like a vast army in and upward until they reach the top of the hive, hanging on to each other until they form a dark curtain, and wait for the mysterious secretion of wax to take place with which to build the walls of their new city. Some of the swarm are detailed as guards to the entrance, and some inspect every crevice of the hive and clean and glaze the walls and fill every seam with propolis. The guards at the entrance keep out intruders, and woe to the stranger who comes. But if any of the worker-bees come from the field with soiled wings these guards act the part of dressing-maids, and carefully attend to their toilets, for no bee may enter the immaculate city of the queen with soiled garments, for bees are almost fanatically cleanly.

When I began bee-keeping I used chaff hives, but found them too heavy to handle. Now I use the single-walled dovetailed hives, which I can handle alone, and use outside cases for winter protection. These hives being bought in the flat, and every part so nicely fitted any one who can drive a nail can put them together.

When working among the bees a beginner needs a bee-hat with veil, a pair of thick gloves and a good smoker, and the very best is the cheapest in the end, because a poor smoker may fail you when most needed.

With regard to taking off the honey, when I find a super about full I pry it free from the hive with a screwdriver, puff in a little smoke, and place another super with empty sections on the hive, under the full one. In a day or two, about 3 o'clock in the afternoon, I sally forth with smoker and bee-escape board, and, raising the upper super just enough to blow in a little smoke, slip the escape-board between the two supers and leave them until about 5 o'clock the next morning. Then I take off the super full of honey from which every bee is gone, and the colony does not know it has been robbed. Everything is peaceful.

I do not know that I ever enjoyed greater satisfaction than when walking through the dewy grass last summer carrying burdens of white honey, before the majority of people were stirring. With me it has been both success and failure, but the bees have quite a balance in the credit column, and I hope to go on with a work that has been of more value to me than can be reckoned by dollars and cents, in the lessons of patient faithfulness under difficulties learned from the bees. Oneida Co., N. Y.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

SULPHUR AS A GERMICIDE.

Sulphur smoke is pretty severe medicine for live bees; but those who have been so wicked as to kill light colonies in box-hives in the fall with it know that it takes a strong dose of it long-continued actually to kill. Of its powerful germicide powers there is no doubt. Smoking hive, bees, and all, just to the last point of endurance looks more hopeful than feeding or sprinkling drugs. Seems to me I'd do it the third time, the last time taking the combs alone and smoking them in a box. Page 291.

OLD GRIMES' TOO MUCH TONGUE.

Say, Old Grimes, if too much tongue on the bee is going to make it tumble to the ground from lack of balance, we'll quickly remedy that by breeding on a little more tail. Give us something harder. Hustle is all right, but, you see, we propose to drive Tongue and Hustle in span.

No wonder they thought Old Grimes was dead;
He moved like the clock-hand, void of bustle;
And never a mile did he get ahead,
For his tongue was so long that he couldn't hustle.

KEEPING BEES ON THE "SLY."

Frontispiece, May 15, is what might be called, Keeping Bees on the Sly, or, A Clergyman Queer in His Upper Story. We trust that the queens of surrounding domiciles will not cause any hegira by their "quahking."

MORE ROOM TO DISSUADE SWARMING.

Anent the oft-repeated advice to give the bees room, it may be remarked that they do not consider that matter of room exactly as we blunderingly expect. Nothing is room to them (at least not in any full sense) unless it has comb in it. They do not walk on air any more than men do. Suppose you dwelt in a lowly cabin, 12x20 and 6 feet high, and were about to move for lack of room, Suppose, then, some practical joker of a fairy queen should touch your cabin and, presto, it is 12x20 and 20 feet high. "Now, you have plenty of room, be satisfied," quoth she. You would quickly answer, "The cubic feet are all right, but my feet can not perambulate in cubic feet so far from my head." Empty space may at times help *some*; but it is usually very inadequate as a swarm-dissuader. Page 307.

EXTRACTED HONEY FROM DARK COMBS.

It is a matter of some importance whether honey does or does not extract color from black combs. The general impression one would get from reading the Chicago convention report on the subject is an impression of doubt whether there is a slight discoloration, or whether that is all pure imagination. Evidence of serious discoloration seems to be lacking. Page 309.

ROBBER-BEES STOP THE APIARIST'S WORK.

As may be inferred from Miss Wilson's article, on page 309, danger and damage to the bees aren't all by any means that is involved in a robbing muss. Some seem to think it is—and that ignoring robbers is a nice kind of bravado. Often the real, main thing when work presses is the annoying and expensive loss of the apiarist's time. Once they get the robbing bee in their bonnet nothing can be done that does not involve stopping work. Extreme care from outset on might have purchased the right to go ahead—too late now.

BEES FERTILIZING BLOSSOMS.

Mr. Thaddeus Smith (being good on the skirmish) will abandon the cucumber kopje when he reads Dr. Miller, page 811—but he'll shoot "allee samee" from the fruit and berry territories.

BEES STORING IN BROOD-CHAMBER FIRST.

'Spects that part of Mr. Doolittle's dissent, on page 311, is because he runs a different strain of bees from those some of the rest of us keep. As for the rest, I guess (being a Yankee) that Dr. Miller's mind was mainly on breaking an idol in his own yard, perhaps not thinking very much of other people's idols. Had no further faith that *his bees* would contract any *bad habit* of storing below that would interfere in the least with starting in the sections when conditions were right for that. To that extent I can go with him heartily. In fact, I can go somewhat further. I am willing my bees should put some of the first surplus below, and serenely confident that they will carry it up a little later on—but then, I run with 7 frames, not 9 or 10.

Only One Night to Denver.—By going over the Chicago & North-Western and Union Pacific railways, you will need to spend only one night on the road from Chicago to Denver. There is a daily train leaving Chicago at 10 a.m. on the C. & N. W., and leaving Omaha, Nebr., over the Union Pacific at 11:30 p.m. of the same day. This train arrives in Denver at 2 p.m. the following day. That is, by starting from Chicago at 10 a.m. on Tuesday, Sept. 2, you will arrive in Denver at 2 p.m. the next day, or Wednesday, Sept. 3, inample time for the first session of the National Bee-Keepers' convention, which begins that evening.

Now as to rates: The round-trip price at that time from Chicago to Denver will be $25. By going over the route mentioned, the regular sleeping-car rate would be only $3.00, because of being only one night on the way.

There is also another saving by taking the C. & N. W. and Union Pacific. There is a Pullman tourist car on this train from Omaha, in which the charge for a double berth is only $1.50 to Denver. As no sleeping-car accommodations are required on this train east of Omaha, it will be seen that one can go comfortably by this route for a very small sum.

We may say that Dr. C. C. Miller and the Editor of the American Bee Journal expect to go over the route indicated, starting at 10 a.m. on Tuesday, Sept. 2. Who will join us? We would like to publish the names of all who will do so. It would be pleasant to have a large number go together.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Apt to Make the Cross Crosser.

I see that some one is trying to cross bumble-bees with honey-bees, to increase the size! I have been trying to cross my bees with lightning-bugs, to enable them to work nights!

We crossed our strawberries with milkweed last year, and this year we have a fine crop of strawberries and cream on the same vine!

I have been unable to arrive at any good results with crossing the bees; if you can give any information on the subject, I would be greatly obliged. NEBRASKA.

ANSWER.—I advise you not to make any further effort in that line, for crossing bees makes them cross, and if you cross a cross cross with another cross cross, the resulting cross will be a still crosser cross.

Honey-Dew—Cockroaches—Swarming.

1. Explain honey-dew.

2. What harm to the hive do cockroaches do? and how can one get rid of them?

3. When bees swarm does the queen come from the hive first, or last? NORTH CAROLINA.

ANSWERS—1. It would be going beyond the limits of this department to say all that can be said about honey-dew, but it is likely that you desire to know its source. In some cases it is a secretion of plant-lice, in others it seems to be secreted directly on parts of the leaves or stems of plants.

2. I never could see that they did any harm, although I don't like to have them about the hives; perhaps more for their looks than anything else. I suspect that like ants they make their stay in and about hives for the warmth. I think they might be destroyed by poison, *providing* the bees did not also have access to the poison.

3. Neither. She may come along in the crowd at almost any time, but I think I have oftener seen her issue after than before half the swarm was out.

How a Beginner Should Begin.

As I am somewhat interested in bee-keeping, I would like to ask a question or two in regard to learning bee-keeping.

My grandfather and father have had bees for about 20 years, but I will confess that neither they nor I know scarcely anything about them, in fact nothing in regard to handling them for profit in the honey-line; as we have kept them simply as agents for distributing pollen for fertilizing small fruit, and they have done their work well.

My father has been a subscriber to the "Old Reliable" for some time, and I have read each copy with a great deal of interest, but with not as much as I would if I knew more about bees so I could understand it better.

What would be the best way for a beginner to learn something of bee-keeping? What, and where, could I procure, and what would be the cost of, a good book of instruction in bee-keeping for a beginner? KANSAS.

ANSWER.—You have done two important things toward becoming an up-to-date bee-keeper. You have become interested in the bees themselves, and all the more because intelligent enough to recognize that their most important work is that of fertilizing the flowers; and, second, you have been reading the American Bee Journal. A third item you have omitted, and that ought to have been done before reading bee-papers—but you are on the track of it—and that is the study of a good text-book. Send to the office of this journal, and get "Root's A B C of Bee-Culture," for $1.20; Cook's "Bee-Keeper's Guide," for $1.20, or Dadant's Langstroth for $1.25. Any of these is clubbed with the American Bee Journal a year for $1.75 for the two. Become familiar with your text-book, let your study go hand in hand with your practice with the bees, and when you run across something that neither your practice nor your text-book helps you out with, as you surely will, send the conundrum to me, and I'll do my best to help you out—if I can.

Success to you.

Making Honey-Vinegar.

How can I make good vinegar from the waste honey around an apiary? Can it be made so that one can detect the honey-flavor? Is such vinegar good for pickles?

WISCONSIN.

ANSWER.—From honey you can make vinegar of best quality, good for pickles or for any other purpose for which good vinegar is used. Minute instructions are given in some of the bee-books, and there is not room in this department to go into the matter fully, but it may be said that you can make vinegar from diluted honey just the same as you would make it from cider. Indeed, if you dilute honey and let it stand in a warm place it will make vinegar probably in spite of you. Add to the honey a sufficient quantity of water so that when a fresh egg is put into it there will be a spot of the egg about the size of a dime above the surface. It should be understood, however, that honey of objectionable flavor will not make as good vinegar as will honey of good quality.

When To Put On Supers.

Dr. Miller says, "Put on supers when you see first the white clover bloom." Here's the bloom, but we will wait 2 or 3 weeks before following his advice. This is fully 2 weeks earlier than I ever saw the bloom in Northern Iowa. All well here, and waiting patiently for the bloom. IOWA.

ANSWER.—Probably it may be all right not to put on supers until 2 or 3 weeks after the appearance of the first clover bloom, but in a good many cases it might do a good deal toward forcing bees to swarm. Unless I have been mistaken in my observation, bees begin working in earnest on clover about 10 days after the first blossoms are seen, and with any considerable number of colonies I always feel safer to have supers on about 10 days before they will be needed, so the bees will be sure to commence promptly in them when they are needed. Weak colonies, or those with scanty stores, may not need supers so soon, but a strong colony, with plenty of stores, so that there are no vacant cells in the brood-chamber—well, my friend, if you have a number of colonies of that kind, please report how much more than 10 days after the first clover bloom they are ready to work in supers, and I'll make my teachings to fit the case in the future. If swarming is desired, then it is all right to put on supers not till 2 weeks after first clover bloom is seen.

Sowing Sweet Clover—Preventing Increase—Hive for Comb Honey.

1. When and how should sweet clover seed be sowed? and which kind is the better for honey, yellow or white? How much per acre is best to sow?

2. You recently said in answer to a question of mine that one way to prevent increase would be to take all the brood from the bees just before they were ready to swarm. Now, what would I do with about 500 frames of brood, if I did not want increase?

3. I use Hoffman frames and our flow here is from white and red clover, and lasts from four to eight weeks. Which hive do you think would be best for the production of comb honey, the eight or the ten frame? Give reasons.

INDIANA.

ANSWERS.—1. You can sow the same as farmers in your neighborhood sow red clover, using half the amount of seed. If the ground is very mellow, however, there is danger that in the following winter the frost may heave the sweet clover out of the ground. If you can have the ground beaten or tramped down as hard as the roadside, your chance for a crop will be better.

2. I'm afraid I made rather careless work in answering that question. Prevention of swarming is one thing, prevention of increase another. Some want to prevent swarming but do not want to prevent increase. Some want to

prevent increase, but are not anxious to prevent swarming. As a means of preventing swarming, taking away all brood works well, but it is not so easy to see on the face of it how it prevents increase. It is not an easy thing to start with a given number of colonies and keep that same number every day of the year for a series of years. Indeed, it is probably impossible. But it is possible to have the same number each year at some given date. There will be more or less losses in different ways, and these losses must be made good. There are losses in wintering, losses through queenlessness, and perhaps losses in number through uniting. When a man does not wish to go above a certain number, he may find it advisable in the spring to unite all his weaker colonies; because it is the strong colonies that give the best harvests. Thus it will be that in any case there will be some increase to make each season, although the number each fall may be the same.

So you will see that you will be able to use up a good deal of brood to make good your number of colanies. But that will not account for the 500 frames of brood you mention. After you have given a reasonable amount of brood to each of the weak colonies you have to build up, or to each of the nuclei you have started, there will still continue to be brood to be disposed of. Well, after you have given a reasonable amount, keep right on and give an unreasonable amount. Pile up until each pile has 40 frames of brood or more. That will allow you to use some of the earliest and strongest for supers, reducing them to one story, or you may allow them to store frames of sealed honey for future use.

There will thus be an increase in the number of combs, and these can be used the next year to take the place of foundation when you take away all brood.

3. I don't know. After having tried both on a pretty large scale, I have some doubt whether there is any difference. The two principal points are these: It is easier to manage the larger hives so as to avoid the danger of starving in winter and spring, also the danger of weak colonies; and it is easier and more convenient to handle the smaller hives and their supers.

QUEENS!

Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North.

The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

We have files of testimonials similar to the above.

Our Breeders originated from the highest-priced, Long-Tongued Red Clover Queens in the United States.

Fine Queens, promptness, and square dealing, have built up our present business, which was established in 1888.

Prices of GOLDEN and LEATHER-COLORED QUEENS, before July 1st:

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Selected, Warranted	$1.00	$5.00	$ 9.50
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We guarantee safe arrival, to any State, continental island, or any European country. Can fill all orders promptly, as we expect to keep 300 to 500 Queens on hand ahead of orders. Special price on 50 or 100. Free Circular. Address all orders to

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1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
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DIXIE QUEENS

	Each.
Untested Italian Queens, by mail	$ .75
Tested Italian Queens, by mail	1.25

4-frame Nucleus, $2.50, with Queen. No foul brood in this country.

Also BEE-KEEPERS' SUPPLIES. Catalog free. **H. MOORE, Prop.,**

704 McLEMORE AVE.,
W. T. LEWIS, Mgr. MEMPHIS, TENN.

GENERAL ITEMS

Plenty of Rain—Later Swarming.

We are having plenty of rain here, and prospects are good for honey, if nothing happens. Swarming will be somewhat later than usual, on account of cool, dry weather this spring.

J. M. LINSCOTT.

Gage Co., Nebr., June 6.

Discouraging Outlook.

I will write a little about the honey crop that some of the good people with supplies to sell told us about. Mr. C. Dayton, who was around among the bee-men, says no one has extracted yet, and is not likely to do so. He has moved his bees back into the valley, so he can watch them.

Bee-keepers say they will be lucky if they do not have to feed. There are lots of flowers, but it is too dry for nectar. Of course, we can tell what bees might do with alfalfa in central California. The sumac bush may yield some nectar for winter stores. There is more brood than honey in our hives now. Black, white and silver sage are in bloom, and so is wild buckwheat, but it yields very little this year. It is possible that along the ocean, where the fog is more dense, they may get a little honey. E. ARCHIBALD.

Los Angeles Co., Calif., May 25.

Introducing Queens—Hard Winter.

I will give my quick way of introducing queens. I have introduced 20, and have not had a failure, but I do not say it is infallible.

I go to the colony about sundown in which I want to introduce the queen, and open up the brood-chamber carefully, so as not to flustrate the bees. I hunt their queen, take her off, and then put all the frames back in place. Then I smoke them for a few seconds, so the bees will all rush to the honey and fill themselves; then I smoke them again enough to make them scamper all through the hive, and then give them a few puffs of smoke at the entrance. I then give them enough smoke again to clear the bees from the top of the

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

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This pen consists of a **hard rubber** holder, tapering to a **round point**, and writes as smoothly as a lead-pencil. The **point** and **needle** of the pen are made of **platina**, alloyed with **iridium**—substances of great durability which are not affected by the action of any kind of ink.

They hold sufficient ink to write 10,000 words, and **do not leak or blot.**

As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

Pens are furnished in neat paper boxes. Each pen is accompanied with full directions, filler and cleaner.

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Send TWO NEW SUBSCRIBERS to the American Bee Journal for one year, with $2.00; or send $1.90 for the Pen and your own subscription to the American Bee Journal for one year; or, for $1.00 we will mail the pen alone. Address,

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The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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Bee-Keepers—Attention!

Do not put your money into **New Fangled Bee-Hives,** but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

Thousands of Hives, Millions of Sections, ready for **Prompt Shipment.**

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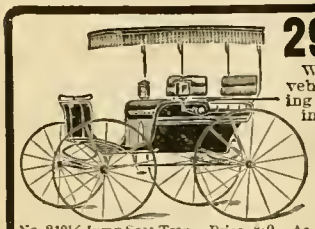

No. 212½ Jump Seat Trap. Price, $60. As fine as sells for $40 to $50 more.

We are the largest manufacturers of vehicles and harness in the world selling to consumers, and we have been doing business in this way for 29 years.

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but ship anywhere for examination guaranteeing safe delivery. You are out nothing if not satisfied. We make 195 styles of vehicles and 65 styles of harness. Our prices represent the cost of material and making, plus one profit. Our large free catalogue shows complete line. Send for it.

No. 152 Top Buggy has ⅝ inch Kelly rubber tires and rubber covered steps. Price, $73 00. As good as sells for $40.00 more.

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Famous Italian Queens!

BUCKEYE STRAIN OF 3-BANDED LONG-TONGUES are wonderful honey-gatherers. One customer bought 10 dozen. Just think of it! (He bought a few last season as a trial.)

MUTH'S STRAIN GOLDEN ITALIANS.

As fine as money can buy. Either of the above by return mail, 75c each; 6 for $4.00. Selected tested, best money can buy, $1.50.

FULL LINE OF THE FINEST DOVETAIL HIVES AND SUPPLIES. Send for Catalog.

THE FRED W. MUTH CO.,

Please mention Bee Journal when writing. Front and Walnut Sts., CINCINNATI, OHIO.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warraut every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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☞Please allow about two weeks for your knife order to be filled.

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frames, then I open the cage and let the new queen run down, and, as she goes I send two or three puffs of smoke with her. I then close the hive and the work is all done, and the bees do not know that their queen has been taken out.

I can change quicker than I can write and tell how, if the first queen is not too hard to find.

Bees in this part of the country had a hard time getting through last winter, several bee-keepers losing almost all. One I know of started with 8 colonies, and lost all of them; another with 7 colonies lost all but one; and one with 36 had only 5 to get through the winter all right. I moved mine 12 miles, to the farm, the last of February on a sled, and lost 19 of them. They all left enough honey-dew and other stuff to feed them more than through the winter, if they had been able to get out; but the long, cold winter with honey-dew, and what some mean people fed them last fall, made it hard on the bees. ARTHUR A. HOUSER.

McDonough Co., Ill., May 28.

Bee-Keeping in Oklahoma.

The bee-industry here is nothing, as there is not a honey-bee in this county that I can find, although I have looked in every direction: in fact, I have just returned from a trip in the country, looking for some that I was told were kept by a farmer about two miles from town, but I was disappointed again, and now I will give up looking and send away for a colony, as I believe they will do well here, but I do not wish to try more than that, for the people say that they will not do any good here. They are not bee-keepers, and I put but little reliance in what they say, but still they may be right, and one colony will be enough to lose trying it; but I will not give up until I try one colony, as there seems to be all kinds of flowers here, and honey sells in the stores for 20 cents a pound, but everybody thinks it is manufactured. I have tried to tell people, any number of times, that it is impossible to make comb honey by hand or machine, and have been laughed at for being so innocent. A case in point: When I moved from Illinois I brought some second-class honey (unfinished sections) with me, and gave some to my new-made friends; the words of praise for it I can not remember, but they were many. One was so much infatuated with it that he got the address of the man I sold my bees to (in Illinois), and has written to him and contracted for some for his winter's use, at a price that will make it cost about 25 cents a pound delivered. The stores are selling now some of the finest white honey that I ever saw at 20 cents, but I can not convince him that it is "real bee honey," as it looks too white. C. M. BRADLEY, M. D.

Kingfisher Co., Okla. Ter., June 6.

Adel Queens and Bees

The standard strain of yellow-banded bees. All select-tested Queens. Each, $1.00. Ready to mail June 1. Cat. free.

HENRY ALLEY,

22A4t WENHAM, MASS.

Demaree's Plan for the Prevention of Swarming.

Some years ago G. W. Demaree gave as a plan to prevent swarming the putting of all the brood in an upper story, leaving the queen below upon foundation, an excluder between the two stories. The plan has gone so many years unchallenged, that to many will come as a surprise the following in Gleanings in Bee-Culture, by C. Davenport:

With a number of colonies I removed all the brood to the upper story, and filled the lower story with frames containing full sheets; and every colony so treated swarmed. Five of these colonies were in 10-frame hives that I bought a year ago, and one was in a 12-frame hive. Two of these colonies swarmed before any cells in the upper stories were sealed, and no signs of cells below.

Some claim that a swarm will never issue with cells in the upper story when there is a queen-excluder between the two stories unless they have also started cells below. But I am absolutely certain that three of my colonies did last season, and I feel morally sure that five or six more did.

A method that did in all cases prevent strong colonies from swarming, whether they had contracted the swarming-fever or not, was to remove all the brood, give empty frames below, and use either drawn comb or full sheets in the upper story; and when this was done the bees drew out the foundation more readily than they did when there was brood below, probably because they had no intention of swarming, and this method gave us the largest amount of surplus of any plan I tried. But almost all the colonies so treated built a large amount of drone-comb below.

Quality of Extracted Honey.

The difference in the quality of extracted honey is strongly put in the words by "X Rays," in the Rocky Mountain Bee Journal:

Some bee-keepers extract from combs partially filled with brood. This is not only filthy and unsanitary, but positively vicious. Honey can not be very healthful or palatable that contains chyle, essence of grubs, and the thin watery stuff gathered from filthy places that is stored next to the unsealed brood. The queen should be confined to the brood-chamber with a sheet of queen-excluding zinc, and never, upon any occasion, be allowed to enter the supers, which she will do if not restrained.

It is the custom very generally among large producers to extract several times during the flow. Some of them wait until the combs are entirely sealed, but the majority extract when they are half to two-thirds sealed. Let me say right here that a first-class article of extracted honey can not be produced in this way.

Every extracted honey equipment should include not less than three sets of extracting-combs, Langstroth size, or their equivalent. The number of these sets of combs must be governed by the locality and the yield anticipated. There should be enough to hold the entire season's crop. When one is partly filled, raise it and slip in another between that and the brood-chamber. Keep this up until the end of the flow, and get as many filled as possible, but leave them all on the hive until you are ready to extract.

Rearing Choice Queens in a Superseding Colony.

The following is part of a conversation between G. M. Doolittle and a visitor, as reported in Gleanings in Bee-Culture, Mr. Doolittle being the first speaker:

"If you can find any colony which shows by its building queen-cells outside of the swarming season that the bees are about to supersede their queen, you can rear as good queens from that colony, during the time that the old queen lives, as can be reared under the swarming impulse."

"I am glad to hear that, for I found one of my strongest colonies building queen-cells yesterday, some having royal jelly and larvæ in them. But this colony has not my best queen in it, and I wish to rear my queens from my best queen. How can I overcome this difficulty?"

"By doing what is known as grafting the queen-cells, which is simply transferring larvæ from your best queen over into the royal jelly in the queen-cells the bees have started, after first removing the larva that floats on this royal jelly. In this way you fool the bees, and they go on and perfect a queen from the substituted larva, the same as they would have perfected their own."

"But how can I be sure that the grafted cells are not torn down, or that others are not completed which I have not grafted?"

"By sticking a slim 1¼-inch wire-nail through the comb immediately over the grafted cell you can tell all about this; and if you wish to secure as many queens from this colony as possible, while the old queen lives, you will open the hive twice a week and graft all cells having royal jelly in them at each time of opening, and, later on, take out the ripe cells before the queens emerge. In this way you may get as many as from 25 to 100 splendid queens from this colony before the queen dies."

American Queens in Australia.

There is one peculiarity about American-bred queens that I have always noticed, and that is a most decided disposition to curtail laying operations on the approach of winter. On account of the long winter's rest in America, this is simply following an inherited tendency, but is certainly one that I do not look on as too desirable in this climate, still I am well aware that many look on this disposition on the part of the queen to rest through the

J. R. Watkins

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Free! Free! Free!

We mail free to any address "Watkins' Home Doctor," an illustrated book of 100 pages, the finest of the kind ever printed, containing much valuable information, interesting, instructive and humorous reading matter, astronomical calculations, weather forecasts, first-class cooking recipes, and matter relating to farm and home; in short, something for every member of the family, old or young.

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—ITALIAN—

BEES AND QUEENS!

We have a strain of bees bred specially for honey-gathering and longevity. We feel confident of giving satisfaction.

PRICES:
for the remainder of this season:

1 Untested Queen	$ .60
1 Tested Queen	.80
1 Select Tested Queen	1.00
1 Breeding Queen	1.50
1-Comb Nucleus, no queen	1.00

J. L. STRONG,
204 East Logan St., CLARINDA, IOWA.
25A3t Please mention the Bee Journal.

The American Institute of Phrenology,
(INCORPORATED 1866)
Opens it next session Sept. 3, 1902. For particulars apply to the Secretary, M. H. PIERCY, care of Fowler & Wells Co., 24 East 22d Street, New York, N. Y.
j. j. a.

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HANDY WAGONS.

They carry 4000 lbs. and do it easily, and don't cost a fortune either. Write for the free catalogue. It tells all about this wagon and the famous Electric Wheels.
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Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

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Marshfield Manufacturing Company.

Our specialty is making **SECTIONS**, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.

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Queens Now Ready to Supply by Return Mail

Stock which cannot be excelled. Each variety bred in separate apiaries, from selected mothers; have proven their qualities as great honey-gatherers.

Golden Italians Have no superior, and few equals. Untested, 75 cents; 6 for $4.00.

Red Clover Queens, which left all records behind in honey-gathering. Untested, $1.00; 6 for $5.00.

Carniolans —They are so highly recommended, being more gentle than all others. Untested, $1.00.

ROOT'S GOODS AT ROOT'S FACTORY PRICES.

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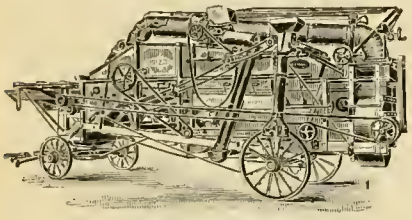
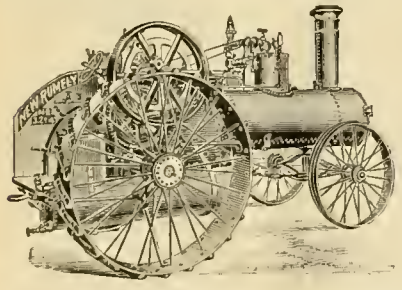
(Successor to Chas. F. Muth and A. Muth.)

Rumely Threshing Machinery. — While advanced methods in agriculture are gradually unfolding themselves, the demand is keeping pace for the best implements and machinery that the market affords. It is but natural that this should be true in all lines, but there are especial reasons why it should be true in a matter of the magnitude of threshing machine outfits. Chief among them is the amount of money that must be invested. In no other implement that has to do with the seeding, cultivation, harvesting of the crop, preparing for the market or



other farm use, is there such a considerable outlay required as in the matter of threshing machinery. It is not purchased for a season's work on a single farm, but usually for many crops for all the grains and grasses, and to make a profit for its owner above first cost and operating expenses, it must do duty for a series



of years. If for no other reason it would seem to be imperative, in this account alone that machinery of the widest uses and the best adaptation to each as embodied in the best makes to be found, should be sought by the threshermen. In this connection and always when speaking of threshing machinery the mind reverts to the Engines and Separators manufactured by the M. Rumely Co., of La Porte, Ind. Having been in the threshing business since 1853, their machines have been put to a good, long test. Their popularity as told by the number of sales annually as compared with those of other threshing machine manufacturers, has outrun even what their long years would seem to warrant. The reason must be sought for in the intrinsic worth of the machines themselves. We have not the space to enter upon a recitation of the many distinguishing points of excellence of the Rumely machines. We are reproducing a cut both of the New Separator and the Traction Engine herewith. The advertisement is running regularly in our columns. Any of our readers anywhere, who are interested in threshing machinery, should look it up and write to the Rumely Co. for their catalog. It will be gladly sent free for the asking, and will put the inquirer in the way of possessing a threshing outfit of the highest type of usefulness.

BOYS WE WANT WORKERS

Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

Please mention Bee Journal when writing.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.

144 & 146 Erie Street, - CHICAGO, ILL.

Please mention Bee Journal when writing Advertisers.

28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

winter as a very desirable feature. I must say, however, that some of these American queens produced *splendid honey-gatherers*, but they are crowding the brood-nest rather too much to suit me; but I am quite sure that this infusion of fresh blood is going to have a decidedly favorable effect on my strain.—H. L. JONES, in the Australasian Bee-Keeper.

Plan for Starting Queen-Cells.

W. H. Pridgen is an acknowledged authority in matters pertaining to queen-rearing. In getting cells started he uses a "ventilator," or bottom-board consisting mostly of wire-cloth, to use when fastening bees in a bee-tight hive; and to prevent the excited queenless bees from rushing out when the cover is lifted to admit the cell-cups, he has a slotted cover, so that a part of the cover can be raised sufficient to admit only the frame having the prepared cups. As to the manipulation, he says in Gleanings in Bee-Culture:

To get a colony in readiness to accept cups, simply shake the bees from enough combs of brood to fill a hive, and place it over a populous colony with only a queen-excluder between, with a laying queen below, as has been so often described for cell-building. These combs of brood are drawn from any colony or colonies in the apiary, and replaced by frames filled with foundation or empty combs. The bees are simply shaken and brushed from them without having to find the queen or queens.

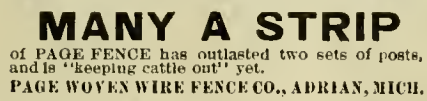
The bees in the bottom story over which they are placed will at once take possession, and, as soon as the brood is all sealed in this top story, it can be placed on the ventilator and the combs thoroughly examined for queen-cells. Better shake the bees from them, to be sure none are overlooked; and, besides, this shaking process and rough handling tends to hasten matters, as a search for the queen immediately follows. Remove all cells, and place the slotted cover on, enough combs having been removed to leave spaces for the reception of the cups. While it is not essential that bees be broodless to accept cups, provided there be no unsealed brood present, it may be necessary for them to be prepared a few hours longer before giving the cups, and the preparation of the bees can be done the evening before, or earlier in the day than recommended in the first case, with the other manipulations to follow at the time given.

As soon as the accepted cups are given to the cell-builders, the hive of queenless bees used over the ventilator can again be placed over the same colony as before, with the excluder between, and the operation repeated as often as desirable.

To keep this colony in a condition for continuous work as cup-accepters, it is necessary to fill another body with combs of brood as before, and place it on an excluder with the first one above it, until the brood is all sealed in the second lot of combs. After this is done, and before the brood in the second lot is sealed, the bees should be

shaken from two or three of the second lot of combs into the one placed on the ventilator, to start the necessary excitement in it, when the latter is set off to make ready for the acceptance of cups. By the time the brood in the second set is sealed, the bees will have emerged from the first set, and the latter can be disposed of, the queen-cells removed from the second set as recommended, with the first, the second used over the ventilator, and another set placed under it for the brood to become sealed. Thus managed the same hive can be used the season through, and the combs and adhering bees, whenever a set is removed as above described, can be used in forming nuclei.

The idea is to use bees for accepting cups that were only a few hours previously deprived of unsealed brood and queen, either by taking them from the queen and brood, or the brood and queen from them, and thus have them in a condition to accept larvæ at once, in a hole in a block, or wherever found, regardless of the crudeness of the transfer or preparation.



MANY A STRIP

of PAGE FENCE has outlasted two sets of posts, and is "keeping cattle out" yet.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing.

CLOSE SATURDAYS AT 1 P.M.—Our customers and friends will kindly remember that beginning with July 1, for three months we will close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

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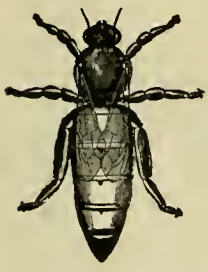
$5 TO START YOU IN BUSINESS

We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.

DRAPER PUBLISHING CO., Chicago, Ills.

Please mention Bee Journal when writing advertisers.



FOR GETTING NEW SUBSCRIBERS.

Red Clover Queens

FOR 1902 FREE!

Long-Tongue Variety—Warranted Purely Mated

We have arranged with the queen-breeder who furnished Long-Tongue Red Clover Queen for us during the season of 1901, to fill our orders this season. Although fully 95 percent of the untested queens he sent out were purely mated, this season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most excellent reports from the queens we supplied last season. And this year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

Orders for these fine, "long-reach" Warranted Queens will be filled in rotation—"first come first served"—beginning as early in June as possible. It is expected that orders can be filled quite promptly (even better than the past season), as a much larger number of queen-rearing nuclei will be run. (But never remove the old queen from the colony until you have received the new one, no matter from whom you order a queen).

All Queens will be guaranteed to arrive in good condition, and will be clipped, unless otherwise ordered.

A Warranted Italian Queen for Sending us only TWO NEW YEARLY SUBSCRIBERS.

In order that every one of our subscribers who wants one of these Warranted Queens this season can easily earn it, we will book your order as follows:

No. 1.—For sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00, we will mail you ONE of these queens free.

No. 2.—Or, for sending us *one new* subscription at $1.00, and 30 cents more ($1.30), we will mail you a queen, and the Bee Journal for one year to the new subscriber.

No. 3.—Or, send us $1.60 and we will send to YOU the Bee Journal for one year, and also a queen.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 7.—The honey market is in a waiting attitude; there is more comb on sale than for several Junes of recent years; most of it is out of condition from one cause and another, chiefly by having grained; therefore a very light yield this year would not help the crop now on hand of last year. Prices are without special change in either comb or extracted honey from those given last. Consumers are not in the market for other than small lots. Beeswax is very scarce and brings 32c upon arrival. R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH CO.

ALBANY, N.Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6½c. Beeswax, good demand, 30@31c.
H. R. WRIGHT.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

NEW YORK, May 19.—There is a limited demand for comb honey and prices range as follows: Fancy white, 14c; No. 1, white, 13c; amber, 11@12c; no buckwheat or dark on the market and no more demand for any. Market on extracted remains very inactive. Plenty of supply with only fair demand. We quote: white, 5½@5¾c; light amber, 5@5¼c; southern, in barrels, 50@55c gallon. Beeswax firm at from 30@32c pound, according to quality.
HILDRETH & SEGELKEN.

CINCINNATI, June 7.—There is hardly any change in the honey market. Comb is not moving much, and whatever is left can be bought at cut rates. Water-white is selling from 14@15c. Extracted is in fair demand and finds steady sales, in barrels, 5@5½c; water-white alfalfa from 6@6½c; white clover from 6½@7c. Beeswax is coming in more freely and sells for 28c. C. H. W. WEBER.

SAN FRANCISCO, June 4.—White comb, 10@12 cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

The market is quiet, with no heavy quantities offering on the spot or to arrive. That values will incline materially in favor of buyers the current season is not probable. The yield in this State will undoubtedly prove much lighter than was generally estimated a few months ago. Prospects are that high-grade honey will meet with a tolerably stiff market.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.

21Atf Mention the American Bee Journal.

SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.

DRAPER PUBLISHING CO., Chicago, Ills.

Please mention Bee Journal when writing.

BINGHAM'S PATENT SMOKERS

24 years the best. Send for Circular.

25Atf T. F. BINGHAM, Farwell, Mich.

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FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

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BEE-KEEPERS,
Save Money by Buying
Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF
THE W. T. FALCONER MFG. CO.,
Jamestown, N. Y.
☞ Our goods are guaranteed of superior quality in every way.
Send for our large illustrated catalog, and copy of
THE AMERICAN BEE-KEEPER,
a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)
☞ W. M. GERRISH, E Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.
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$300,000,000.00 A YEAR
and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

FOR SALE 100 Langstroth Winter Hives, Supers, Zinc-Honey-Boards, Bee-Escapes and Feeders. KARL KEIM,
24A4t 149 YORK ST., BUFFALO, N. Y.

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st
Send for circular.
JOHN M. DAVIS,
14A26t SPRING HILL, TENN.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.25 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

BEE-SUPPLIES!
"ROOT'S GOODS AT ROOT'S PRICES."
Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.
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512 MASS. AVE. INDIANAPOLIS, IND.

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25th Year Dadant's Foundation 25th Year

We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

Bee-Keepers' Supplies OF ALL KINDS *****

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....
CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.
Please mention Bee Journal when writing

THE DANZENBAKER HIVE

The best comb-honey hive on the market may be obtained of The A. I. Root Co., of Medina, Ohio; at any of their branch houses, and many of their local and jobbing agencies. Send to the address nearest you, and save freight, and get quick delivery.

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The A. I. Root Co., 1200 Md. Av., S. W. Washington. Saffell & Herrick, Managers.
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Geo. W. York & Co., 144 & 146 Erie St., Chicago, Ill.
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The L. A. Watkins Mdse. Co., - Denver, Colo.

Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.
THE A. I. ROOT COMPANY, Medina, Ohio.
GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market. J. B. MASON,
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.

M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.

THE A. I. ROOT CO.,
MEDINA, OHIO, U.S.A.

GEORGE W. YORK & CO., 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

National Bee-Keepers' Convention at Denver, Sept. 3-5, '02

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JUNE 26, 1902.

FORTY-SECOND YEAR
No. 26.

WEEKLY

APIARY OF C. E. KNOTT, OF BUFFALO CO., NEBR.—(See page 404.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

EDITOR—George W. York.
DEPT. EDITORS.— Dr. C. C. Miller, E. E. Hasty.
SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

An Italian Queen Free!

We would like to have our regular subscribers (who best know the value of the American Bee Journal) to work for us in getting **NEW** subscribers. We do not ask them to work for us for nothing, but wish to say that we will mail **ONE FINE UNTESTED ITALIAN QUEEN** for sending us **ONE NEW** subscriber for a year, with $1.00; or 2 Queens for sending 2 new subscribers, etc. Remember, this offer is made *only* to those who are now getting the Bee Journal regularly, and whose subscriptions are fully paid up.

In case you cannot secure the new subscribers, we will mail one of these Queens for 75 cts., or 3 or more at 70 cts. each; or the Bee Journal one year and a Queen for $1.50.

(Please do not get these offers mixed up with our Red Clover Queen offers on another page.)

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

CLOSE SATURDAYS AT 1 P.M.—Our customers and friends will kindly remember that beginning with July 1, for three months we will close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

A New Edition. 19th Thousand.

Prof. Cook's Bee-Keeper's Guide

Or, Manual of the Apiary.

Price, Postpaid, $1.20

PROF. A. J. COOK.

Price, Postpaid, $1.20

This standard work on practical bee-keeping has just been thoroughly revised and brought down to date. About 100 pages and nearly 100 illustrations have been added, which makes it now a superb volume of 544 pages, with 295 fine illustrations. It is printed on clear white paper, and is bound in elegant brown cloth, gold-lettered.

Prof. Cook has been one of the leading contributors to the American Bee Journal for a quarter of a century. He is well known to bee-keepers everywhere. He is an authority on bees and related subjects. His book has had a large sale, which now bids fair to increase greatly.

In order that every reader of the American Bee Journal, who does not already possess a copy of Prof. Cook's work, may have it, we wish to make the following

FOUR LIBERAL OFFERS:

No. 1.—For $1.75 we will mail the American Bee Journal one year and a copy of Prof. Cook's book.

No. 2.—Any one of our present subscribers whose subscription is now paid in advance, can have a copy of Prof. Cook's book mailed to him free as a premium for sending us two new subscribers to the American Bee Journal for a year (with $2.00.)

No. 3.—Or, send one new subscriber for a year (at $1.00) and 50 cents more ($1.50 in all,) and we will mail to **YOU** a copy of the book and will send the American Bee Journal for one year to the new subscriber.

No. 4.—For $1.00 we will send Prof. Cook's book by express or freight with other goods; or, if called for at our office, the price is $1.00. But the postpaid price of the book alone is $1.20.

☞ Please remember that offers Nos. 2 and 3 of the above are made to those who are now subscribers to the American Bee Journal, and whose subscriptions are paid in advance. Offers Nos. 1 and 4 are made to any one who desires to take advantage of them.

Address all orders to the publishers,

GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO, ILL.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JUNE 26, 1902. No. 26.

Editorial Comments.

The Season is a rather discouraging one in some parts of the North. Cold weather continued late in spring, retarding brood-rearing, and up to the middle of June, in spite of occasional hot days, cool weather has ruled. Instead of being busied putting on additional supers, some have been obliged to feed to keep the bees from starving.

Mistakes in Queen-Rearing are likely to be made by beginners. One mistake is in thinking that good queens can be reared at times when the weather is chilly, or when bees are not busy bringing in nectar. Rightly managed, feeding may be made to take the place of a natural harvest, but there is nothing the bee-keeper can do to make up for the lack of good weather. Another mistake it is to think that a weak nucleus can produce good queen-cells. The royal larva should be flooded with royal jelly, and this is best attained in a strong colony. Up to the time the young queen is about ready to emerge, there is no better place for her than in a strong colony, and at no time before she begins to lay should there be any risk of her being chilled.

General Manager of the National.—We have received the following announcement from Emerson T. Abbott, which is self-explanatory:

ST. JOSEPH, MO., June 17, 1902.

EDITOR AMERICAN BEE JOURNAL—

Dear Sir:—The notice of Acting Chairman Root (see page 387) with regard to the General Manager of the National Bee-Keepers' Association seems to call for a statement from me.

First, the Board has or has not a right to receive Mr. Secor's resignation and elect his successor. If they have a right to do this, then one was elected some time ago, for eight members of the Board voted to elect his successor, and seven of them voted for one man. The three New York directors and myself refrained from voting. The vote was declared, and Mr. Secor was duly notified by the Acting Chairman as to the result, and was requested to turn the funds over to the newly elected General Manager, and he wrote that he would do so. However, later, at the solicitation of a disgruntled member of the Board in New York, he refused to do so. If the Board has any authority to act in a case like this, then every member of it who voted to elect a successor to Mr. Secor, formally voted at the same time to receive his resignation. As a majority of the Board so voted, of course he is out, and it is all nonsense to talk about reviewing a vote which has been canvassed and the returns announced. Therefore, Mr. Secor is not General Manager, and has not been since the day the vote was announced.

Mr. Abbott was not "supposed" to be elected—he was legally and clearly elected by a majority of the members voting, and is the only legal General Manager in existence to-day, if the Board has any authority to act on the question. If it does not (and I am inclined to doubt if it has), then Mr. Secor's resignation is before the membership, and they should be given an opportunity to elect his successor at once. As soon as the membership selects another General Manager, the funds in my hands will be turned over to him, but they will not be turned over to Mr. Secor unless he is elected by the membership. The majority of those voting elects a General Manager, according to the Constitution.

The Buffalo amendment, in my opinion, gives the Board authority to remove a General Manager only for cause, and then to fill his place, but it does not give them authority to fill his place in any other case. If it does, then all the members of the Board having received notice of his resignation, and eight of them having voted for his successor—in fact, nine of the twelve, if my vote should be counted—that ended the matter so far as the Board was concerned.

A deliberative body may review a vote, but any sane man knows that a vote by ballot is final, if any one receives a majority of the votes cast.

It seems from the statement of the Acting Chairman, that the Board has decided that they have a right to act on Mr. Secor's resignation. If so, then I am General Manager.

This is all I care to say at present.

EMERSON T. ABBOTT.

Prevention of Increase comes sooner or later to be a desirable thing for every bee-keeper who is very successful in wintering and does not wish to sell bees, unless his bees do not swarm to any appreciable extent. What may best suit one may not suit another. One of the old ways to limit increase—so old that it may be new to some—may be worth repeating here:

When the first colony swarms, hive the swarm in the usual way. When the second colony swarms, hive the swarm in No. 1, that is, in the hive of the colony that first swarmed. Then as each successive colony swarms, hive the swarm in the hive of the colony that previously swarmed.

The question arises, however, How long must a colony have swarmed before it is ready to receive another swarm? If a swarm is immediately returned to its own hive, it will only result in the swarm issuing again the same day or the day following, and it would seem that the same result would follow putting in a swarm from some other colony. Will some one who has had experience in the matter tell us how long it is necessary to wait after a colony has swarmed before a swarm can be given to it without the danger of having the swarm re-issue? Or is the plan one not to be commended?

The Weekly Budget.

MR. THOMAS G. NEWMAN, who for so many years previous to June, 1892, edited this journal, had the following paragraphs concerning the condition of his eyes, in his Philosophical Journal, under date of June 14:

Kind inquirers ask for news concerning the editor's vision, as nothing has been printed about it for several

months. In reply he would say that while a slight improvement is noticeable, he is still unable to read any ordinary printing or writing.

The best magnetic healers have been employed—including mental scientist treatments,suggestion and hypnotism, but all have failed to cure. The case is stubborn, and we doubt if any of these can cure, while we have to use our eyes so persistently.

HENRY DADANT, second son of C. P. Dadant, dropped into our office recently. He had been in Chicago looking up some work along his line—that of civil engineering. He found a position with the Illinois Central Railroad Company. He expects to hustle during his vacation months, and then return to the State University at Champaign, Ill. "Henry" will get along all right. He is well mannered, alert and cheery. Quite like his "dad" in these respects.

THE APIARY OF C. E. KNOTT, of Buffalo Co., Nebr., is shown herewith, concerning which Mr. Knott writes this:

I send a picture of my bee-yard, showing my wife, two boys, and myself. The boys are a great help to me; they are hiving a swarm apiece, one on a limb, the other between the legs of a saw-trestle. One boy is 10 years old and the other one is 11.

I have kept bees for tbree years, and like it first-rate. I have not lost any during the winter. Last summer I got 300 sections of comb honey and 250 pounds of extracted from 21 colonies. I winter the bees in open sheds on the summer stands. Our pasturage is nearly all alfalfa and sweet clover.

I am always glad to get the American Bee Journal. I read it the first of the papers. I wish it success, as usual.

C. E. KNOTT.

MRS. ANNA E. DANZENBAKER, wife of F. Danzenbaker, died at Claymont, Del., June 11, 1902, aged 63 years. When sending us this sad information, Mr. Danzenbaker wrote thus tenderly concerning his departed life companion:

CLAYMONT, DEL., June 11, 1902.

DEAR FRIEND YORK:—The sufferings of my saintly wife ended at 4 o'clock this lovely June afternoon, filled with bird songs and roses' perfume. How sadly we miss the inspiration of her sweet voice and kindly ways, that for 42 years have been the chief corner-stone and crowning joy of our life and home. How sacred in memory her sterling worth, her purity of soul and life, her sacred devotion to truth, duty, and right, for the very love of right.

She won the esteem and love of all who knew her. We were always proud of her. She taught us in life how to live for others' good; in death—too dear the lesson—to die without a fear. F. DANZENBAKER.

For 42 long years to tread life's pathway together—and then to stop. How lonely will seem the way to our brother who now goes on without her who was thus long the delight of his life and home. Bee-keepers everywhere will sympathize deeply with Mr. Danzenbaker in his sad bereavement. The American Bee Journal desires to unite with them in their feelings of sorrow for a stricken brother.

THE RED CLOVER QUEENS which we have been booking orders for during the last six months or more, are now being mailed by our breeder. He has been greatly delayed by unfavorable weather, but he expects to get caught up with the present orders by about July 1, so those whose orders have been received lately can not expect to have their queens until July, for the orders were taken "first come first served," as will be noticed by referring to the Red Clover Queen advertisement previous to this week's issue.

Orders for regular Italian queens we are filling almost by return mail, at terms quoted on page 402.

ADVANCED BEE-CULTURE is the title of a 90-page (6x9) pamphlet on practical bee-keeping, by W. Z. Hutchinson. The first edition was issued about 10 years ago; the second edition is just off the press, and we have a supply at this office. It is sent post-paid for 50 cents; or with the American Bee Journal one year—both for $1.35.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 389.)

SHIPPING-CASES FOR HONEY.

QUES.—"What kind of shipping-cases is the most desirable?"

Mr. Burnett—The case that has come into general use now is known as the non-drip case; it is perhaps the best I know of. We prefer cases that hold 12 and 24 sections. Of course, we probably sell honey in other sizes, but people rather like uniformity of packages. They like to call for a package of honey, and know about what they are going to get. The non-drip case has certainly been the best thing that has come to my knowledge during my time in the honey-business, and I sometimes think it would be a little difficult to improve upon it; however, there are some people who don't understand how to manage it, even as simple as it is, and put the strips in without fastening them at all, and, at times, despite the fact that the honey is in that sort of a case, it is injured. I know it is something the bee-papers have called attention to a great many times, and I think it is a fact that the manufacturers do give directions to fasten in those strips before the honey is put in. Is not that a fact?

Pres. York—I think they do.

Mr. Burnett—I think I have seen some advertising calling attention to the fact that the strips should be fastened in the case, and it certainly is not of great value unless it is done, but if the combs are injured the paper that is in the bottom prevents the honey from getting out of that case, as a rule, and smearing the others. So far as some honey is concerned, I think it is the best thing now in use.

Mr. Walker—I have a few words to offer in regard to the shipping-case question. While I sanction all that Mr. Burnett says about the superiority of the non-drip case, I can't say I regard the cases now on the market under that name as deserving of such a name. Possibly I was among the first instrumental in the introduction of such a case, and I have used these cases largely—what I call the non-drip case—for perhaps 15 years, and after using them for a good many years I had them made to order by the Root Company, and succeeded in getting that company to list them in their price-list. When they first sent them out they made them after the pattern I was using. Of late years they have adopted something quite different. Possibly some of you remember my criticising them several years ago. I think it is stated in Gleanings, that the drip-sticks that are used in common shipping-cases are worthless, and that possibly two different kinds of drip-cases should be used, one for the careless bee keeper, and another for the other sort. The inference was that it was good enough if bee-keepers would only be careful enough. The point I wish to make is, the drip-sticks commonly used are altogether too shallow—only about ⅛ of an inch in thickness; I have always used them about 5-16 inch deep. The reason for this is, if there is any drip to amount to anything, for instance, a couple of spoonfuls of drip in the bottom of the case, it will spread, and when you lift the sections up, you will find them half filled, while if the drip-sticks were 5-16 of an inch, or ¼ thick, there would be no trouble in that respect. I consider that a very essential point, and one that has been overlooked, and thus causes a great amount of money to be lost in handling honey that has been dripping more or less, to put it in condition. There are some very careless freight-handlers as well as bee-keepers. I had a consignment the other day, and the sections were thoroughly fastened all around—the combs were thoroughly fastened—they were the plain sections, averaging about 15 ounces to a section; the honey was packed in the common style of non-drip cases, with drip-sticks about ⅛-inch deep, and nearly all of them were fastened so they could not move about, and nearly every case

had a few sections that were broken more or less—just a few spoonfuls of drip—and it took hours of time to clean up those sections. Sometimes the drip would be in the corners of sections, and had to be gotten at. It has cost me at least $50 to handle over cases like that, and I can see no sense in having those shallow drip-sticks. Mr. Root wrote me on the matter, that so many bee-keepers wanted shallow drip-sticks because their honey was so thick; I replied that thick honey required more drip-sticks. The shipping-cases that are so commonly sent out have paper in them that won't hold the honey, in case there is a drip; it is not manilla paper; it will tear easily and soak through, and if there is any drip to amount to anything, it is apt to get in the different cases. The original non-drip cases had manilla paper.

Mr. Moore—The honey is not dripping when it leaves us, why is it that it is when it reaches its destination? What is it that makes the drip? Is it because the sections break down? or why is it you have the drip?

Mr. Burnett—I arose to endorse what Mr. Walker has said. It is a fact that we find now that the best honey is thick honey, and that the space between the sections and the bottom of the case, that is the drip sticks, are not thick enough; they do not raise the honey enough, so that when it drips out, it gets up against the section, and it causes the difficulty that he mentions; it had not occurred to me to be as technical about it as he is; he has evidently thought the matter out carefully. As to the leakage, there ought not to be any leakage in comb honey at any time, and I suppose the reason for it is that these drip-sticks are not large enough. We are pleased to have the inventor with us; it is a very great privilege to have heard from him. The calculation is that the combs should not be broken; if they do the drip-sticks would not be of much service, but it is for the little drip that may get out of the injured cell or cells that has not been capped properly.

Dr. Miller—Now, if these men who receive the honey find that there are so many unsealed cells, and that the honey is so thin that it runs out, then there is something wrong on the part of the bee-keeper. It seems to me that it ought not to be a matter of necessity that unsealed cells containing honey so thin it will run ought to be shipped. Do all the sections break out alike? Will a section that is thoroughly fastened, top and bottom, break out?

Mr. Dadant—Yes, lots of them.

Dr. Miller—Fastened on all four sides?

Mr. Dadant—On all four sides, yes.

Dr. Miller—I believe the great trouble is, a section is put in that is not thoroughly fastened.

Mr. Dadant—I have known of honey being shipped in car-load lots all the way from California, and not get broken, but in single packages they break often. The railroad companies manage us, we do not manage the railroad companies, and we have no recourse. I do believe we have not gotten hold of the railroad companies as we ought to; they ought to handle the honey so as not to break it. Our attention should be directed towards compelling them to transport our honey safely. They charge us well for it, and they ought to pay if they break the sections.

Mr. Burnett—I should be sorry to have a false impression go abroad. Where there will be some apparently not well fastened sections that do not break down, I have noticed that, as Mr. Dadant says, apparently a well-filled section will be broken out; but on examination I find that it was not really well fastened; it was fastened, as it were, down the center where the foundation was, but not outside of that. And then, again, I have thought that a section had at times been put in a case that had been jarred loose after it was put in there. As to the light weights breaking down, that is accounted for by the fact that the weight is not there to break it out, even though it is only fastened partially on two sides, and fairly well on top, and open on the bottom; the weight is not there, but the heavy section will be full, and it would seem as though it was fastened on the section, but it is only slightly fastened there, and not fastened on the outside. Years ago—when I was young, like Mr. York—I used to go to the depots and try to have the honey handled carefully, especially when it would arrive, and we sought various ways of getting honey from the railroad company with the least possible breakage. We got the men so that they would carry it out of the cars instead of dragging it out. The warehousemen had been accustomed, in carrying out the honey, in setting it down, to stoop over and then let it fall to the floor the rest of the way. Nearly all of the railroad companies now notify us when any honey arrives for us, if it is any considerable amount, and some railroad companies will for only one case, and we will go and get it out of the car; they leave it in the car until we send for it, and we have very little breakage of honey in that way; the breakage is nearly all where it is unloaded, as a rule very nearly always at the destination.

Mr. Dadant—Or at the transfer?

Mr. Burnett—Or at the transfer. Of course, the railroad companies now have gotten fairly well educated on that; they won't transfer it if they can help it.

Mr. Walker—I wish to ratify what Mr. Burnett says about fastening combs in sections; those that are well fastened in proportion to their weight are the ones that usually come through in good shape.

Mr. Dadant—I imagine it is a case of luck if they come through all right only slightly fastened.

"How would you fasten the strips in the no-drip cases?"

Dr. Miller—Use light nails.

(Concluded next week.)

Contributed Articles.

Honey-Crop Prospects—Finding and Clipping Queens.

BY C. DAVENPORT.

The season here, so far, has been about the most unfavorable I have ever known, it being cold and windy most of the time through April and the first part of May. The bees secured but very little from the spring flow of soft maple, fruit and dandelion bloom, as it was so cold and windy while they were in bloom that they were not able to fly much, and since the weather has warmed up there has been nothing for them to work on.

For some reason, unknown to me, basswood has failed to bud. Although, as I have said, the spring has been exceptionally cold, there were no hard frosts late enough to kill the basswood buds, if they had started.

Last summer we had the worst drouth known since the country was settled. Possibly this may be the cause. This spring there have been an unusual amount of rain and floods. A good deal of the white clover died out last season, owing to the dry weather. What was left started up well this spring, but all the low pasture lands, where the most of it was, have been flooded and under water a number of times, which has greatly injured it, for a good deal of it is buried under mud and sand. What will the harvest be? It looks now as if it might not be anything, but if the season is a failure it will be the first one here in my time, and I have a number of times seen the prospects fully as unfavorable looking as they are now, when a fair crop—and in one case a big one—was secured before the season closed.

I have been going ahead, getting things right side up, and am about ready to handle anything in the way of a crop that may come. I am glad to say that at this date the queen in every colony I own is clipped, and clipped short, too. The last few years I have not practiced clipping to any extent, for I practice artificial swarming mostly, so there was no climbing for swarms, anyway. But last year I was ill at the time this work should have been done, and was unable to secure any one that was competent to do it.

Swarming was soon on in full blast; of course, I had men to hive the swarms, but they were not able to handle all of them. One day, when I was not able to walk around, I lay under a tree, near one of the yards, and watched swarm after swarm fly off to the woods. There were two men for this yard, both of whom were a failure, but the best and all I could get at the time. I resolved then that another season I would have every queen clipped, but I had a hard time doing it this spring; in fact, I had to clip the most of them in the night. It was so cold the most of the time early in the spring that I disliked opening the hives and exposing the brood as much as is often necessary to find a queen, and when the weather became suitable there was nothing in the fields for the bees to work on, so they were all at home ready to rob and pounce on a colony the minute a hive was opened.

I have said before that whenever I wished to open a hive and handle a colony for any purpose I always did so,

no matter how crazy the bees were to rob. I wish to modify this by saying that there are times when it is not practical to expose a colony long enough to find the queen, especially with German or black bees, for one disadvantage about this race of bees is that they sometimes become so frightened or excited when being handled that they race and run all over the combs and hive, and finally cluster in bunches on the bottom-bars, so that it often takes a long time to find the queen, and in some cases, this spring, before the queen could be found, the great horde of robbers following me around would have a good share of the exposed stores carried off. But I will say that, bad as the robbers were, a medium to a strong colony never failed to expel them after their hive was closed. Although I have Italian bees from some, and, in fact, from almost all the noted strains, the majority of my colonies are of the German race, and I say that to find the queens in all of them would be a big job. even if there were no robbers.

I have done a good deal of studying over this problem, which was finally solved in a most satisfactory way by the use of zinc and Rambler's famous jouncer. About sundown, on warm evenings after the bees had ceased to fly, entrance-guards would be attached to a large number of hives, and the bees jounced out and allowed to run in through the zinc. Myself and assistant timed ourselves one evening, and found that one of us could attach the entrance-guard and jounce out a colony in three minutes, It was such a simple, quick and easy way to find black queens by this method that I was afraid there must be a catch about it somewhere, and thought that perhaps it might be that the jouncing would injure the brood or eggs, for the jouncer I use is not the elaborate padded affair that Rambler invented ; so I went slowly until I had time to watch and notice if there were any bad after-effects on the brood. A frame in a number of hives was marked, and the brood carefully inspected before and each evening after the hives were jounced. No ill effects whatever could be noticed, and this is the method I shall practice to find queens after this, whether robber-bees are bad or not; if they are not the bees could be jounced out during the day, which would save night work, for it takes the bees some time to work through the zinc.

I used to go around with a lantern two or three hours later, and the queens were easily found among the bees that were still outside.

I have had experience enough with clipped queens before, though, to know that when natural swarming occurs everything does not always go just right, for I have had swarms without queens cluster and hang for some time before returning to the hives they issued from, and in numerous cases they would try to enter some other hive, usually one in which a swarm had been hived shortly before. Again, I have had them break or divide up and try to enter a number of hives ; in such cases they would usually all get killed, if the colonies in the hives they were trying to enter were not well smoked. Such cases, while by no means rare, are exceptions; the majority of swarms will, if their queen is clipped or confined by zinc, return to their own hive without clustering. But going over a yard, in the spring, and clipping all queens, does not insure that all queens that issue with the first or prime swarms will be clipped, for it is not very rare for a colony to supersede its queen just before or during the swarming season, and, when this is done, if they are fairly populous they are almost sure to swarm with the first young queen that hatches.

Now, I will give beginners in clipping a little advice that may in time pay them for the trouble of reading this article.

When a swarm issues and clusters, if you can't find the queen don't decide they will come back anyway until you raise or tip the hive up so you can look along and up between the bottom-bars of the frames. If they have superseded the old, clipped queen there will be ripe queen-cells in sight. Cells from which young queens are nearly ready to hatch look considerably different from those that have only been sealed two or three days. If not able to tell in this way, by taking the frames out and looking them over the cell from which the young queen has hatched can be found. If no such cell is in the hive the bees can be depended upon not to leave for the woods, provided no young queen from some other hive on her wedding-flight, or one driven out, has not joined them. This only happens in quite rare instances, but I have lost swarms in this way, and so have others.

The bright side, or the ease and simplicity of handling natural swarming on the clipped-queen plan, has been told by others. I have told about the balks and difficulties that one will sometimes encounter when practicing this plan in a large way. Southern Minnesota, June 7.

Foul Brood in San Diego Co., Calif.—Needs of Legislation, Etc.

BY HON. J. M. HAMBAUGH.

"During the years 1859 and 1860 there were upwards of 6000 colonies of bees imported from the East into this State [California]. They arrived in better condition, apparently, than those of former years, yet, owing to the fact that large numbers of these were infected with *foul brood* prior to their purchase and shipment, together with the effects of so long a voyage, probably half of the whole number was lost. Many of the remainder have since died, or now linger in a diseased condition, which is infinitely worse for the parties owning them than if all had died at once.

"Thus the result has been bad for all concerned, for while some have lost their money, others have injured their reputation, besides paralyzing for a time an important branch of productive industry."

So wrote Mr. Harbison, in 1861, as quoted from his "Bee-Keeper's Directory."

Just think of it! Three thousand colonies of *foul-broody* bees allowed to enter our State, and be indiscriminately scattered all through the country! From the reading we would infer that the 3000 colonies were a putrid mass of dead brood, germ-inoculated honey, wax, etc., and this with the "many that lingered in a diseased condition," destroyed the reputation of many bee-keepers, and, for a time, paralyzed the bee-keeping industry.

This, you will notice, was over 40 years ago, and the bee-keeping industry has survived this calamity, and many might imagine that we were safe from a return of this extremely dangerous contagion. Let us not deceive ourselves. The hydra-headed monster is abroad in the land, and I very much doubt if it has ever been thoroughly banished from our State since its introduction over 40 years ago.

Like Mr. Dadant, I never had any acquaintance with this disease until I came to California, and was appointed foul-brood inspector of our county (San Diego). Feb. 13, 1900, is the date of my first introduction. I had often wondered if I would recognize the disease. I had already come in contact with many badly afflicted bees, and worried Prof. Cook's patience (thanks to him) with various samples, but they all seemed to lack the chief characteristics, viz.: "The elastic ropiness, coffee color, and glue-pot smell." Here was a case, however, that would not admit of a doubt, and I was obliged to put my first seal of condemnation upon 30 colonies. Since that time I have found over 300 cases, and it extends over an area of 70 miles square, and approximates a total of nearly 7000 colonies. This will make one diseased for nearly every 23 healthy colonies. This, of course, does not include many apiaries not visited, which would naturally lower the percent.

I also found the disease in spots, with a central location, traceable to imported diseased bees from foreign parts, pointing very clearly to the need of a law prohibiting the moving of bees from one locality to another without a certificate from a duly authorized inspector, that such bees are free from contagious diseases, etc. The bee-keeping citizens in these unfortunate localities are vehement in their expressions, and do not request such a law, but simply say they *demand it.* They are the victims of unscrupulous parties, who have simply unloaded their venom upon an innocent purchaser, not only to poison him, but to contaminate and possibly ruin, an entire community.

In the name of justice, bee-keepers of California, will you not co-operate with us and see that our law-makers frame and enact a law that will protect us from such an unnecessary source of contagion among our bees? The dread disease (foul brood) is among us, and without a proper knowledge of it, and its cure, it is to be dreaded.

Let me tell you, Mr. S. was a purchaser of over 100 colonies of bees in an adjacent county, two or three years ago. There was always trouble among them, and, not being informed as to the gravity of the situation, he took no pains to read up. I found him, about one month ago, with 35 colonies, and the surrounding dead ones bore strong evidence of the man's careless incredulity and ignorance. Of the 35 colonies, 33 were in all stages of the disease, and one of the remaining two was queenless ; hence, he had but one sound colony in the yard. And this is not all. Every neighbor's bees within reach of this apiary were more or less afflicted. A widow moved 23 colonies within one-fourth of a mile of him last fall, only six or seven months

previous to my visit, and I found 19 out of the 23 inoculated with the disease, and had to be condemned.

I could give other instances in which we have reason to be apprehensive, but I will close by reiterating my previous position, that box-hives and stationary combs should be done away with by legislation. They are a nuisance to the industry, and exceedingly unprogressive.

Let us hear from some of our inspectors upon this subject. San Diego Co., Calif., June 5.

Production and Care of Extracted Honey.

Written for the Wisconsin State Convention, held in February, 1902.

BY ELIAS FOX.

The prepartion for a future crop of extracted honey begins soon after the close of the present season. This preparation consists in having an abundance of stores which varies with the season. Should there be no flow of honey after basswood, each colony should have from 40 to 50 pounds of honey, but should there be a fall flow, a less quantity would be sufficient. The point is, not to have less than 25 pounds of good honey in each hive when the bees are placed in their winter quarters.

Next to plenty of good stores is the necessity of having a young, vigorous, and prolific queen.

Then comes proper wintering, which consists in placing the bees in suitable winter quarters at the right time.

In my estimation, after 18 years of practical experience, my method of manipulation is as nearly successful as the average.

Late in the season I remove the oil-cloth from the hives and place over them a piece of factory cloth. Then, as soon as cold weather begins, the bees are carried to the cellar and the covers are removed. The first hive is placed upon 2x4 studding lying flat upon the bottom of the cellar. Two sticks ¾-inches thick are placed crosswise on top of the first hive to support the next one, and thus they are tiered up six hives deep.

The covers of the top hives, however, are left on, and one end slightly raised to allow the escape of accumulating moisture.

The cellar should be as near underground as possible in order to control the temperature. It should be dry and well ventilated with at least two doors three feet apart. The temperature should range from 40 to 50 degrees above zero. Prepared thus the bees come out in the spring with combs as dry and free from mold as when put into the cellar. The bees should be removed from the cellar as early in April as the weather will permit. You will, no doubt, be surprised to see them bringing pollen, and perhaps you will wonder where they get it so early. But if you make investigation you will find them working upon willow, tag-alder, poplar, or hazelnut, or perhaps all of them. This will be a week, or perhaps two weeks, before elm and soft-maple are in bloom. Thus, some bee-keepers make a mistake by leaving their bees in the cellar till the latter trees bloom. If these simple instructions are implicitly adhered to our winter loss, as a rule, will be nearly nothing.

As soon as the bees are removed from the cellar and have a cleansing flight, each hive should be cleared of all dead bees. The frames should be rearranged by placing a frame well filled with honey at one side of the hive, and the queen and brood should be placed next to this frame, and then another well-filled frame should be placed upon the opposite side of the brood. Place oilcloth over the factory cloth, and put on a tight-fitting cover to exclude robber-bees, storms, and wind.

Then, in ten days or two weeks, should the weather prove favorable, go over them again, and if the bees are sufficiently strong, spread the brood and insert one empty frame of worker-comb in the center of the cluster. In one week repeat the operation, adding two empty combs in those hives having bees enough to cover them well. Continue thus until the brood-chamber is over-flowing with bees and brood in at least six of the eight frames. Then put on an upper story with at least three or four frames of worker-comb, and let the queen have access to this also.

As soon as the honey-flow begins, confine the queen to the brood-chamber with a queen-excluding honey-board, and if there is any honey to be had I will guarantee the bees will get it. At least this has been my experience. Should the colonies be sufficiently strong add a third story, and as soon as the honey is capped remove and extract.

Have a sufficient number of large barrels to hold two or three pounds of honey. Remove the heads and insert molasses-gates near the bottom of each barrel. Place these barrels around the walls of the extracting room on strong benches of sufficient height to draw off the honey into 60-pound cans.

Have the head of each barrel covered with fine cheese-cloth, through which every ounce of honey should be strained. Leave the honey in the barrel as long as you can conveniently do so, as by so doing, should the barrel contain any thin honey, it will rise to the top and ripen by evaporation. Then draw off the honey into 60-pound cans. (In my estimation the 60-pound can is the only perfect package for storing and shipping honey.) Screw down the caps on the cans as tightly as posssible. Then place the cans in cases holding two each, which makes a 120-pound package, net. Securely nail down the covers of the cases, and you can safely ship your honey to any foreign country should you so desire. This package is covenient to handle, free from leakage, and consequent unsightliness. Also, there will be no danger of having fermented honey in any climate.

You should get all of your clover honey out of the hives by the time the basswood season begins. At the close of the basswood season clean all the combs out again, in case there should be a fall flow of honey. Thus, you have each variety of honey separate from the others, and should there be a better market for one variety than the other, you are in a position to take advantage of it without any extra expense.

The secret of success in the honey-business is to do the proper thing at the proper time; as our seasons here in the North are short, at the best, we must make honey while the sun shines. Vernon Co., Wis.

The Cause of Spring Killing of Drones.

BY G. M. DOOLITTLE.

"I have been keeping bees for about a year and a half now, and read the American Bee Journal. I want you to tell me through the columns of that paper what is the trouble with my bees. I have ten colonies that wintered well in the cellar, coming out strong in bees. They are strong now, and I see plenty of them working on the opening heads of white clover to-day, but they are killing off their drones. What could the drones have done that they are thus killed? They are making a business of killing them as much as they did last September. What is the cause, and what will be the result? Two of the ten colonies swarmed a short time ago."

The correspondent seems to think that his drones must have done something very wrong to cause the bees to kill them; but I hasten to assure him and the readers that his drones were not "sinners" above other drones, for all drones are treated in the same way under like circumstances. The failure of flowers, or with a "sea" of bloom and the flowers failing to secrete nectar on account of unfavorable weather, or the atmosphere not being favorable for the secretion of nectar, no matter if the weather appears all right, often causes the bees to kill their drones in May or June, as well as later on in August and September; and if the scarcity of nectar is great enough, drones just ready to emerge from their cells have the cell-covering gnawed open, and they themselves ruthlessly dragged out just before their wings are formed, and before they get even a sip of honey.

And if the failure of nectar-secretion continues, no matter how nice and fine the weather may appear, till the colony is on the verge of starvation, drone-brood, in its milky condition, is torn from the cells and sucked dry so as to prolong the existence of the colony, the refuse, not having any life-supporting qualities left, being cast out at the entrance to puzzle the bee-keeping novice who is not acquainted with these things.

The questioner did not tell us anything about what kind of weather he had been having in his locality, nor in which quarter the prevailing winds were. But I suspect that it was very much the same as we frequently have in this locality at about the time of the opening of the white clover bloom, namely, cool, cloudy, and windy, with more or less rain; or, what is nearly or quite as bad, all clear weather with the air in the northeast. I do not know why it is so, but in this locality we rarely get any secretion of nectar from any source of bloom, when the wind or air continually hangs in a northeast direction. I have known colonies to be killing their drones and dragging out drone-brood right in the very height of white clover bloom with seemingly nice weather for nectar-secretion, except that there was a northeast air day after day.

During cool, cloudy weather the bees rush out every

time the sun "breaks the clouds," and appear to be working well, while they are not getting a living for themselves and the brood, to say nothing about storing sufficient to afford the presence of drones, or these "gentlemen of leisure," as one bee-keeper calls them. After our questioner has studied into matters long enough he will know that such a state of affairs as this during white clover bloom is not an uncommon occurrence; and I believe a failure of nectar in the clover blossoms, in our correspondent's locality, is the cause of the killing of his drones.

The fact that only two of the colonies have swarmed, when all came out strong from the cellar, and that no swarming is being done at the time of writing, shows that there is no secretion of nectar to amount to anything, else his colonies would keep on swarming. Only two swarms, with the bees killing off their drones, is proof to my mind that the clover he saw his bees work upon is yielding little else save pollen, even though it appeared to him that his bees were working well.

As to what the result will be, I see no reason to fear anything bad, unless this honey-dearth continues so long that his colonies starve from his neglect to feed them. Nature makes no mistakes, and bees never kill off drones where they are needed. The colonies which have not swarmed have given up all idea of swarming for the present, without doubt, so they have no need of drones; and I will venture the assertion that, if he will look into the hives of the two colonies that have swarmed, he will either find drones or a young fertile queen, for a colony having queen-cells or a virgin queen will preserve their drones till the very last, even though the whole colony perish with hunger. If the failure of nectar continues, then the drones in these two colonies will be killed off as soon as the young queens have become fertile or laying queens; but our correspondent can rest assured that, until said queens have been mated, the drones in those hives will not be driven out as useless consumers.

My opinion is that whenever drones are being killed off in the spring of the year, or in early summer, it will amply pay to examine the colonies, and all not having sufficient stores to warrant them in keeping their drones, should be fed. In this way we not only preserve the drones so that they will be present should a sudden flow of honey come on so as to cause the bees to swarm before drones started after this flow arrived, were perfected; but it would also cause the bees to keep up the rearing of worker-brood to a greater or less extent, thus providing the bees for the basswood honey harvest. In fact, it never pays to allow colonies to come anywhere near the starvation point at any time of the year, and especially is this true during the forepart of the season.

Onondaga Co., N. Y.

No. 4.—Rearing Long-Lived Queens and Bees.

BY DR. E. GALLUP.

Now for the discovery in dissecting the queen-cell that I found, in the before mentioned basswood log hive. The queen was in the embryo stage, pretty well advanced, and had what I will call an umbilical cord attached to the point of the abdomen and the outer end glued to the bottom of the cell, with a large amount of royal food in the cell. I never have seen this fact mentioned by but one writer, and that I think was in the proceedings of the late Canadian convention. I never have seen this cord attachment to any nymph reared from an egg laid in a worker-cell in all I have ever examined, but have seen them from eggs laid in queen-cells by the queen.

Two weeks ago (May 3) my youngest boy brought home two small black swarms. In hiving them one had no queen so I gave it a frame of brood to hold them until I could fix them to suit. In 7 or 8 days, perhaps more, I gave a sealed cell from a superseding colony, and cut out 6 cells carefully from the comb I gave them, so I could examine them thoroughly at my leisure. This comb was taken out of the superseding colony. Five of those nymphs had no cord attachment, but the 6th one did; this nymph was a little farther advanced than the other 5. This must have been a superseding cell that I had overlooked. The 5 were started in worker-cells; they never have the cord, neither does a worker or drone nymph. Now, here is a kink that queen-breeders would better look into. When I first made the discovery I intended to follow it up, but soon had to leave bee-keeping for my other occupation. I claim that the queen draws nourishment from this large amount of food through this cord, in a somewhat similar manner to human beings and animals. Who knows?

Now, no one need dispute the fact that the queen deposits the eggs both in the cells built by the workers at natural swarming and superseding time. The cord is attached inside of the abdomen just at the very point, and extends nearly if not quite a 16th of an inch inside. Cut the cell out of comb whole, and then dissect carefully from the base of the cell in making your examinations.

In dividing colonies for increase, and allowing one part, or compelling one part, of the colony to rear queens from a worker-egg never was satisfactory to me. Queens thus reared are short-lived, and consequently their colonies cannot come up to the scratch.

I have received two queens from a party that started out well, but they did not hold out satisfactorily, at all.

I have already told you that bees stop breeding here for a while but can forage all winter. Well, towards spring I noticed that they were not showing up right, and on opening out one hive I found the queen and about a single handful of workers. The other hive had about twice as many, so I broke up both colonies. You can readily see that they were so short-lived that when the queens stopped breeding there was where the spring dwindling came in. I had one queen that reared extra-fancy colored bees, but she could only occupy a piece of comb about the size of my hand. There was no dwindling, for there was nothing to dwindle. Another queen kept her hive fairly full of brood, but the workers did not live long enough to store any more honey than they consumed from day to day, and early in the fall dwindled to nothing. I could tell of dozens of colonies that were about as worthless as the above. My object of sending for queens to different breeders last summer was to try to select a good strain to breed from. In selling, I kept one queen from one breeder that is holding out well so far.

As a boy I was a great and intense fancier of pets. Some 12 years ago I went into the Brown Leghorn business, paying $5.00 for a sitting of premium eggs, and had a good hatch. But all got the swelled head. That was easy to get along with. I had lots of sure cure, warranted to cure swelled head, so I cured up a trio—two pullets and a cockerel. In breeding from those I had lots of swelled heads for 5 years, and, by the way I had one chick hatch from that first sitting with as beautiful a swelled head as I have ever seen.

I went into fancy pigeons; purchased a pair of Nuns; kept them three years and never raised but one young one—all died with canker when from one to three weeks old. I exchanged eggs with other pigeons, and the Nuns could raise the other pigeons everytime, but the other pigeons could not raise Nuns. I had lots of fun trying to cure canker with "sure cures," and I learned that the disease was transmitted in the egg. Cut the heads off; don't breed from diseased chickens that you have cured. I have had no diseased chickens of any kind for five years.

I have had several cases of bee-paralysis. Take an ax and cut the queen's head off; introduce another queen and the cure is complete—providing you do not introduce another diseased queen.

I was born in Canada, 65 miles north of the Vermont line; I kept bees there, and they wintered on the summer stand, usually in a small open shed built for that purpose. They were frequently confined to their hives from November 1 until May 1, and there were very few dead bees on the bottom-board in the spring. They wintered splendidly, providing they were ventilated right, and had sufficient stores. The thermometer often showed 40 degrees below zero. One time in particular it was 40 degrees below zero for 8 days and nights in succession. The bees came out nearly as strong in the spring as they went in in the fall. No spring dwindling or bee-paralysis was known there then. They swarmed naturally, and reared natural queens. No monkeying with them to try to beat Nature. They were long-lived bees.

I might have given my ideas in a short article and right to the point, and not pestered the editor and readers as I have, but my object is to get up a new fad—get all interested enough to go at it with a vim that will make success instead of a failure of the business.

Rear long-lived, healthy queens, and rear them in a natural manner. I care not how long you get their tongues or tails. We want bees for business, not for fancy.

Orange Co., Calif.

(Continued next week.)

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Swarming Indications.

When should one begin to watch bees for swarming? and at what time of the day are they most likely to come out? OHIO.

ANSWER.—There can be no fixed rule. It is a matter of conditions rather than a matter of the almanac. I don't know enough to tell exactly what the conditions are; but before a colony thinks of sending out a prime swarm it must be strong, and there must be a good yield of nectar. As you are probably in a white clover region, you may begin to watch for swarms as soon as the bees get to work on white clover. A prime swarm will not usually issue more than three hours before or after the middle of the day. An after-swarm may issue as much as six hours before or after noon. Probably you will find that nearly all the swarming will occur between 8 a.m. and 4 p.m.

Getting Increase and Transferring.

I have 7 very strong colonies in large box-hives. I want some increase without regard to surplus of honey. I intend to let them swarm, hive the swarm in a frame hive on the old stand, set the box-hive back after four or five days, open the box-hive and divide equally (as nearly as I can) in two parts—bees, brood, stores, and queen-cells—and put in frame hives. Will this work? OHIO.

ANSWER.—Yes, it will work, but you may expect a messy job with so much brood and honey present. If you are not after honey, you would have a more equal division not to set the swarm on the old stand (which will make the swarm very strong, leaving the mother colony proportionately weak), but to put the swarm on a new stand. Then there is a likelihood that it will swarm again in about eight days, and 21 days after the time when the prime swarm issued you can transfer with no worker-brood in the way.

Oxide of Zinc for Hive-Covers.

I saw an article in the American Bee Journal in regard to commercial oxide of zinc being so good to cover hives. Can metal roofs, that are leaky, be patched with that material? How would the oxide ground in oil do? If you know of anything really No. 1 for patching up old, leaky, rusty, tin roofs that can't be soldered, please let me know it. MISSOURI.

ANSWER.—I don't know, and respectfully refer the question to be answered by any one of the fraternity who can answer.

Introducing Queens at Swarming-Time.

As I am just a novice in the handling of bees, I wish to ask if at swarming-time one could move the old hive to a new location, and, waiting until all the old bees had gone back to the old stand (if they will go back), then introduce a queen to what were left in the old hive? Would there be any danger of her getting killed? NEBRASKA.

ANSWER.—Introduction of queens is such an uncertain matter that there is almost always some danger, but if all queen-cells are removed and the new queen is introduced a day or two after the swarming, you will have the danger reduced to a minimum.

Referring to the implied doubt in your parenthesis, it may be said that there is no room for doubt, that when, after swarming, the mother colony is removed to a new stand, and the swarm put on the old stand, the field bees will return to the old stand unless you take some special precaution to keep them on the new stand. But it will be a day or two before they will all have returned.

The Use of the Queen's Sting.

I herewith send you some clippings that I think are good information for the public, except several lines that I will draw my pen around. I do not recollect ever seeing them in the American Bee Journal. If there is any truth in it some of the readers will certainly know. How one would find out I am anxious to know. OHIO.

ANSWER.—The sentence referred to reads as follows:

"The sting is an organ of use to the queen-bee in disposing of rivals, though mainly used in depositing eggs in their proper position during the working season."

The writer of that sentence is not alone in his belief, though what ground there may be for the belief I do not know. In the scientific part of Cheshire's work one would expect to find a pretty full exposition of the subject if anything were positively known about it, but there is only one possible reference to it, which is in these words:

"It has been remarked that the decided curvature of the queen's sting, in contrast to the straightness of that of the worker, is intended to give her such an advantage in combat, that, while her sting is applied, her antagonist should be powerless to reach her, so that a queen duel may not be fatal to both; but the curvature appears to me rather to refer to mating and ovipositing, as the extremity of the sheath can be turned far more completely out of the way through its deviation from the straight line."

That can hardly be understood to mean that the sting is a help either in mating or ovipositing, but rather that its curved shape makes it less a hindrance than it otherwise would be.

Getting Brood-Combs Built.

This is my first year with bees. I have Danzenbaker hives. If at the close of the white honey harvest I double the brood-chamber, putting full sheets of foundation in the upper story, will the bees build comb suitable for brood-rearing next spring? If not, how shall I best proceed? MICHIGAN.

ANSWER.—Bees will build comb only as they need it. If, after white clover, there is a sufficient income from other sources, they will build all the comb they need to occupy. If they gather nothing, they will do little more than to daub the foundation with propolis so as to make it less fit for use. The simple rule is to give foundation when they need more room, whether it be early or late.

Alfalfa in Tennessee.

Does alfalfa yield honey the first year? I sowed some two years ago; it came into bloom, but the bees did nothing with it. Last fall I sowed alsike, which has not fared much better, and buckwheat this spring, that bloomed nearly a month ago, with like result. TENNESSEE.

ANSWER.—As far east as Tennessee you will probably find that alfalfa yields no honey the first nor the twenty-first year. It seems strange that a plant that stands so very high as a honey-yielder west of the Mississippi, should be of no value in that regard farther east. As to alsike and buckwheat, you may find them behaving differently other years.

Only One Night to Denver.—By going over the Chicago & North-Western and Union Pacific railways, you will need to spend only one night on the road from Chicago to Denver. There is a daily train leaving Chicago at 10 a.m. on the C. & N. W., and leaving Omaha, Nebr., over the Union Pacific at 11:30 p.m. of the same day. This train arrives in Denver at 2 p.m. the following day. That is, by starting from Chicago at 10 a.m. on Tuesday, Sept. 2, you will arrive in Denver at 2 p.m. the next day, or Wednesday, Sept. 3, in ample time for the first session of the National Bee-Keepers' convention, which begins that evening.

Now as to rates: The round-trip price at that time from Chicago to Denver will be $25. By going over the route mentioned, the regular sleeping-car rate would be only $3.00, because of being only one night on the way.

There is also another saving by taking the C. & N. W. and Union Pacific. There is a Pullman tourist car on this train from Omaha, in which the charge for a double berth is only $1.50 to Denver. As no sleeping-car accommodations are required on this train east of Omaha, it will be seen that one can go comfortably by this route for a very small sum.

We may say that Dr. C. C. Miller and the Editor of the American Bee Journal expect to go over the route indicated, starting at 10 a.m on Tuesday, Sept. 2. Who will join us?

GENERAL ITEMS

A Veteran Bee-Keeper.

My bees all came through strong, and commenced to swarm on May 30. I am sorry I did not put supers on all of them before I did. There is a good show at present for honey this year.

I have had 4 swarms from those I did not put on the supers; the rest are all working nicely in supers.

I am nearly 79 years old, do not use glasses, and am quite nimble as yet. I go out with dog and gun when in season. My bees are on the farm, so I have one mile to go every day.

HENRY WHITE.

Humboldt Co., Iowa, June 10.

Awful Winter for Bees.

We have had an awful winter for bees. I lost 17 colonies out of 28. Bees did not have a flight from Oct. 15 to Feb. 22. Some days the snow in front of the hives would be black with bees, and I used to tell my wife I did not see how they could possibly live and waste themselves so.

We had very cold weather all the spring; things are white with frost this morning. I am afraid everything is frost-bitten in the garden.

C. G. ASCHA.

Berkshire Co., Mass., June 9.

Discouraging Outlook.

The outlook is very discouraging indeed for this section of country. The incessant rains and cool weather have reduced the bees to the verge of starvation.

My bees were in swarming condition a month ago, but in spite of all the feeding I have done they have dwindled until it looks as if there would be but few bees to gather honey, if there were any to gather.

Everything is late here, and the prospect may brighten a little later on.

MRS. JENNIE TOWLE.

Clark Co., Wis., June 7.

Tick Trefoil.

What relation is bush-clover to alfalfa and other clovers? I enclose another sample of a plant without root. It began blooming about May 15, and will continue until about June 10. The bees have not had anything from it yet, as it has been too wet.

CHAS. M. DARROW.

Vernon Co., Mo., June 4.

[This specimen, which is much more mature than the first, shows the plant to be a Tick Trefoil, probably Desmodium paniculatum, and not a bush-clover. The ripened pod is curved with minute hooked hairs which catch on the wool or hair of animals, or to clothing; hence the name, "Tick." "Trefoil" refers to the leaf being made of three leaflets, or being trifoliate. The Tick Trefoil belongs to the large and important pulse or leguminosæ family, to which bush-clover, alfalfa, and other clovers belong.

The family, as a whole, is rather sweet, as among its most promising representatives might be mentioned the clovers, trefoils, lupine, locust, vetch, and false indigo.—C. W. WALTON.]

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The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

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Tested	1.50	8.00	15.00
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15A26t Please mention the Bee Journal.

Low Rates to Atlantic Coast Points.

July 5 to 9, inclusive, the Nickel Plate Road will sell tickets to Portland, Me., and return, at one fare for the round-trip. It will be to your interest to obtain rates via that road before purchasing elsewhere. Three daily trains. Write John Y. Calahan, General Agent, 111 Adams St., Chicago.

26—26A2t

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to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.

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One Fare for the Round-Trip.

By depositing tickets with agent terminal line, an extension can be obtained until Aug. 15th, returning. Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for particulars.

27—26A2t

Bad Spring for Bees.

The spring has been very bad for bees here, and the losses from spring dwindling have been very great. I have a few colonies in fine condition, but more very weak, besides a number of them dying out entirely since the first of March. JAMES P. HOWARD.

Milwaukee Co., Wis., June 9.

Basswood or Linden Tea.

Europe and American linden or basswood are just the same—the blossoms can be gathered for tea in case of sickness. The tea is good for fevers, all kinds of sore throat, measles, whooping cough and chicken-pox. Take the tea as a drink in time and it will save many a long sick spell, and a large doctor's bill.

The blossoms are in full bloom about July 10; gather them when they are in bloom, with the stem, then dry them in the shade. They are then all right for tea. Just put boiling water over the blossoms, and in 10 minutes the tea is ready for drinking. The hot water can be put on the tea a second time. In case of sickness the tea needs to be made fresh two or three times a day. It needs to be sweetened with honey. (See page 170.)

CATHARINE WAINRIGHT.

Poweshiek Co., Iowa.

A Beginner's Experience with Bees.

I am a "tenderfoot" in the bee-business, having had but one year's experience before the present one. I will not stop to tell of the disappointments and mistakes, but proceed to display my ignorance by propounding a few questions.

Very many of the natives keep bees in the "native" way, in boxes and hollow logs, and if they "rob" out 20 to 30 pounds of honey, bee-bread and brood, they think they are doing fairly well.

Please tell me why, this year more than usual, about ⅔ or ¾ of the swarms fly away? Many come out and leave after having been hived in new "gums."*

My man, who works in the shop for me, has had some years' experience with bees, in the regular Georgia way, and we are transferring all our colonies into the regular 8-frame Langstroth hives. One was transferred in good shape, and in 21 days we drove out another fine swarm, and in cutting out the old comb we found brood enough to fill 7 frames, which was properly arranged in another hive, and a sufficient number of bees induced to enter, and now the seventh day they appear to be doing well. Besides this we secured 2½ gallons of honey. I will report on this colony later.

Another colony had the super nearly

Bee-Keepers—Attention!

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The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

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Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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full in 24 days after they were transferred to an 8-frame hive, with full sheets of foundation, and are working on the second.

We are endeavoring to introduce the regulation hives with foundation in frames, and starters in the section, but the people consider it a useless outlay; but when they come to see our product next fall they may think differently.

F. S. DUNKLEE.

Haralson Co., Ga., May 26.

[*It is quite possible that more swarms desert their hives than usual because of unusual heat. The thermometer may stand higher, or with the same height there may be more moisture in the atmosphere. It is possible, also, that you do not give as much ventilation and shade as you ought. Leave the cover partly off for a day or so after hiving.—EDITOR.]

Poor Prospects for California.

On page 347, I notice an item by A. J. Cook, in regard to California prospects for 1902. I must say it surprised me very much. Perhaps his means of getting knowledge of the situation are much greater than mine. Up to this date my bees have not stored a pound of honey more than their wants, and from inquiry and observation I am well satisfied the bee-men in Southern California are not going to reap much of a harvest this year.

I have been around a little also in San Bernardino, Riverside, and Orange Counties, and I could not see that prospects looked any better than in Los Angeles County. There may be a few local places where some honey will be gathered.

I am sorry that I must disagree with Prof. Cook, but the facts, so far as I know, compel me to do so.

A. ROZELL.

Los Angeles Co., Calif., June 6.

Managing Swarms and Swarming.

I have a method of handling bees which is different in some respects from the general custom in regard to swarming and hiving of swarms. I have practiced this method for several years with complete success.

How to produce the largest possible amount of fancy white comb honey, also the most extracted honey: We try to get all colonies as strong as possible before raspberry and clover bloom. At the commencement of raspberry bloom we put supers on all colonies, and they usually swarm when the supers are about two-thirds full. This is just what we want them to do. As the queen's wings are clipped we go to the hive that is swarming, cage the queen, and if we conclude to run the swarm for comb honey we hive them on the old stand in a brood-chamber containing starters only.

Take the super from the parent colony and place it on the swarm. The following evening we take the parent colony and place it beside its swarm, and leave it there for six or seven days, then move the parent colony to a new stand. The brood is all sealed in seven days, and it is better to have the flying bees from the parent colony enter with the swarm, as it gives the swarm wax-

workers, which is very important at this time, and it gathers later; the parent colony is prevented from casting a second swarm, and all goes well.

There are several reasons why we should get more honey than we would had they not swarmed. The swarm has nothing to do for several days but gather honey, as they have but little brood to care for: as the combs in the super are drawn, and the frames in the brood-chamber contain starters, they commence work in the super at once, and build combs in the brood-chamber only as fast as the queen needs cells to deposit eggs and pollen, and the cells will be of the worker size, and but little, if any, drawn comb will be built.

For extracted honey we give the swarm full combs or full sheets of foundation on wired frames, as this prevents the queen from entering the super.

If there is anything that is not made plain I will be pleased to try to make it so. E. E. COVEYOU.

Emmet Co., Mich., May 27.

Good Queens from Poor Ones.

EDITOR YORK:—Please tell me what Geo. W. Riker means when he says, on page 302, "I found I could rear queens from my poorest queens that produce long-lived workers."

INQUIRER.

[Give it up. We'll have to refer it to Mr. Riker himself. Perhaps he can and will tell.—EDITOR.]

Second-Hand Oil-Cans.

On page 339 is something on "Honey in Old Oil-Cans." In 1871-72 I kept bees in California, 12 miles from Los Angeles. I commenced in the spring of 1872 with 48 colonies, increased to 100, and that season got eight tons of honey, all extracted, and I shipped it to San Francisco, all in second-hand oil-cans, and all to one commission merchant, and got the top price. It netted me 12½ cents, freight and commission paid. There was not one complaint made. The cans were as clean as new, with no odor of the oil after they were cleaned. All the bee-keepers there used them. The trouble with the cans was referred to on page 339, they were not cleaned well. After cleaning with concentrated lye they have to be left in the sun for several days, and there will be no odor left.

J. BECKLEY.

Rice Co., Minn., June 2.

[If you know how, and will do it right, it may be all right. But it hardly pays to risk using old, second-hand oil-cans for holding honey. That is, if you care anything about your honey and your trade.—EDITOR.]

A Discouraging Spring.

When it comes to booming bees here we are not in the business. They have not made a living. They came out strong in the spring, in grand shape, but they have been on a strike and refuse to work, and it is a hard matter to arbitrate with them.

I do not believe I will get any increase or an ounce of honey this year unless things change, as they are not as strong now as when they came out in the spring.

We have had an off year in this section of the country, with high, cold winds, and freezing weather.

I live in the village near the Scioto Marsh, in the onion-raising district. I keep bees, raise onions and fruit, and garden for a living, and to say that I have been on the anxious seat this spring is putting it mild.

Onions—the wind blew them out of existence. Then I rescued them again, and the wind and freeze had them all except one acre. All vegetation is frozen. We had no rain this spring until June 6, and the dirt was blown in great clouds, and did thousands of dollars damage to the onions and other crops. So with the dry weather, cold and bad high winds every day for the last six weeks, and clover and linden blown down, we are not in it for a honey crop this year, from this place in Ohio, anyway.

If it were not for the "Old Reliable" and Gleanings in Bee-Culture I would go out of the bee-business and hire out as a cheap errand-boy.

F. MCBRIDE.

Hardin Co., Ohio, June 9.

RUMELY That is a name that means character and utility. It suggests the best in Threshing Machinery. If investigating, start with the Rumely and you will end at the same place. Get our catalog on the New Rumely Separator and the Rumely Rear Geared Traction Engine. All approved devices and appliances to each, and constitute the one perfect threshing outfit. Catalog shows our engines for all purposes. We send it for the asking. Write to-day.

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1 Select Tested Queen	1.00
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Low Rate Excursions.

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Caves vs. Cellars for Bees.

The following from Editor Doolittle, in the Progressive Bee-Keeper, will make some wish they could have caves instead of cellars:

The consumption of stores from the latter part of September, at which time they were prepared regarding their winter's supplies, to the time of putting out, averaged about six pounds to the colony, for those here at home, while those in the out-cellar consumed nearly or quite twice as much. Those in the out-cellar were in a house-cellar, with a family in the rooms above, while those here at home were in a special cellar dug in the side-hill, so that an even temperature of 45 degrees was maintained during the whole time they were in winter quarters, which was from Nov. 15 till April 15 to 17th, or approximately five months.

How Cubans Take Honey.

The native Cubans have log-hives 40 inches long and 8 or 10 inches square, the hives being made by sawing the royal palm into sections and cutting out the center, which is a tough pith. A board is nailed on to close the back end of the hive, the front being left entirely open. So says Rambler in Gleanings in Bee-Culture. As to securing the crop, he says:

The owner approaches a hive much as we do with smoker in hand; and if not a modern smoker it is something like a stew-pan arrangement; or (as Cubans all smoke) the ever-present cigar may be used.

After the bees are driven back, a thin

knife with a hooked point is inserted, and a comb cut out and dropped into a broad shallow copper—well, I will call it a kettle. Two or more of these are used; and when one is filled it is taken to the palm honey-house for further treatment, while the man with the the knife fills the other kettles. The board on the rear end of the hive is taken off and the honey is cut from both ends of the hive or until the worker-brood is exposed. Although I was not a witness to it, I am informed that drone-brood is also cut out and dropped into the dish with the honey.

In the honey-cabin the honey-comb in the round-bottomed kettle is thoroughly pulverized with a large wooden pestle or pounder. From the kettle the mashed honey is emptied into willow baskets of much the same shape as the kettles—broad and shallow.

Upon one side of the palm cabin is a huge trough 10 or 12 feet long. This, too, is made from the royal palm, and sometimes is of such size as to hold several barrels of honey. The baskets with mashed honey-combs are placed over the trough and left to drain. I supposed these baskets would have to drain for a long time, but was informed that the combs, being so thoroughly pulverized and warm, the honey would drain out in half an hour, and the refuse then dumped into an open barrel or into another palm-tree trough, where it could be solidly packed against the day of rendering into beeswax, which operation is performed in larger kettles, according to the boiling process, and under some adjoining tree.

When the trough is filled with honey it is drawn off into the large bocoy outside the building.

Ebb and Tide in Bee-Keeping.

Some 15 to 20 years ago a man in this county and about 10 miles northeast of here, made in one season $1,000 with 100 colonies, at least so it was reported. Of course it was not long until nearly all his neighbors were keeping bees, and at one time there must have been something near 300 colonies in that neighborhood. In enumerating that section in June, 1900, if my memory serves me correctly, I did not find 10 colonies all together. This is one straw that points toward a decrease in the number of colonies kept in Missouri. Is it not probable that there are many similar cases?—S. E. MILLER, in the Progressive Bee-Keeper.

Keeping Bees Without a Bee-Book or Paper.

Commencing with six colonies on frames, I run them the first season without a bee book or journal, thinking I could manage them with a knowledge I had gained from my father, he having kept bees in hollow logs and square boxes. I lost one colony the first season. In the latter part of August, while overhauling them, I found a number of queen-cells in one hive sealed over, preparatory, as I thought, to swarm, as I thought it too late in the season for them to build up and store enough honey to winter on, and as I had seen in some paper or somewhere else that cutting out queen-cells would stop swarming, and being anxious to try my hand, I cut out the cells. As it was a strong colony I thought I would get one super of fall honey from them. In about two weeks, on looking at them I found they had dwindled down to an average colony. The next time I looked at them I found they had dwindled below an average colony. The next time I looked at them, I found there were but few bees in the gum, and on closer examination, I found they had no queen. I then added them to another colony. I learned afterwards it was a case of supersedure. If I had had a bee-book, I would have learned from it what to do, and would not have lost them, and the bees would have paid the price of two or three books. So much for trying to run an apiary without a bee book or journal.—T. W. MORTON, in the Progressive Bee Keeper.

Temperature Affects Proportion of Extracted to Comb Honey.

No matter how good the honey-flow may be, if warm weather, especially warm nights, are wanting, there will be very little wax-production. Full super combs often make a difference between a crop or no crop of honey. The past season's experience taught me that when the nights were cool, no wax was secreted. I was producing sections and found those bees that had not to build comb, produced considerably more than those that were given foundation only. The previous season, which was warm throughout, gave me almost as much comb honey per colony as extracted. I have no doubt, where bee-keepers' experiences vary, the difference is due to the unlike conditions surrounding during observation.—Australasian Bee-Keeper.

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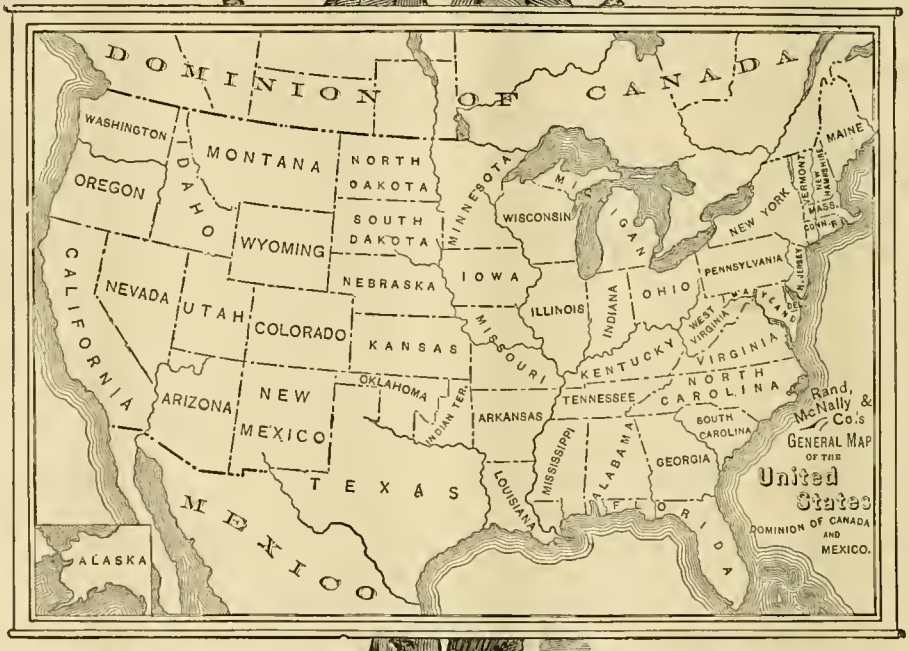

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 18.—The market is practically over in comb honey until the new crop comes forward, so far none has appeared in this city. A little of the extracted is on sale, but it is chiefly of a low grade of amber selling at about 5 cents per pound. There is a large amount of the white extracted honey of the crop of 1901 still on sale bringing 5@6c, according to body and flavor. Beeswax sells upon arrival at 32c.
R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH CO.

ALBANY, N.Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6½c. Beeswax, good demand, 30@31c.
H. R. WRIGHT.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

NEW YORK, May 19.—There is a limited demand for comb honey and prices range as follows: Fancy white, 14c; No. 1, white, 13c; amber, 11@12c; no buckwheat or dark on the market and no more demand for any. Market on extracted remains very inactive. Plenty of supply with only fair demand. We quote: white, 5½@5¾c; light amber, 5@5¼c; southern, in barrels, 50@55c gallon. Beeswax firm at from 30@32c pound, according to quality.
HILDRETH & SEGELKEN.

CINCINNATI, June 7.—There is hardly any change in the honey market. Comb is not moving much, and whatever is left can be bought at cut rates. Water-white is selling from 14@15c. Extracted is in fair demand and finds steady sales, in barrels, 5@5½c; water-white alfalfa from 6@6½c; white clover from 6½@7c. Beeswax is coming in more freely and sells for 28c. C. H. W. WEBER.

SAN FRANCISCO, June 11.—White comb, 10@12 cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

There is not much of any description coming forward at present or being offered for sale. To purchase freely, better figures than are warranted as quotations would have to be paid. No evidences are displayed, however, of large operators doing any noteworthy competitive bidding so far on this season's product, although the crop is not coming up to expectations in point of quantity.

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Meeting B. Y. P. U., Providence, R. I.

The Nickel Plate Road will sell tickets July 7, 8 and 9 at one fare for the round-trip, with stop-over at Niagara Falls and Chautauqua Lake if desired; also via New York City if preferred. For sleeping-car accommodations, call at City Ticket Office, 111 Adams St., or address John Y. Calahan, General Agent, Chicago. 23—26A2t

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Fourth of July

rates via Nickel Plate Road. One fare for the round trip, July 3rd and 4th, within 200 miles of starting point. Return limit July 7th. Write John Y. Calahan, General Agent, 111 Adams Street, Chicago, for particulars.
20—26A2t

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and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.

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State price, kind and quantity.
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Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-hand Queens. Bred 3¼ miles apart, and mated to select droues. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st
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THE A. I. ROOT COMPANY, Medina, Ohio.
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Manager North-eastern Branch The A. I. Root Co.

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National Bee-Keepers' Convention at Denver, Sept. 3-5, '02

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JULY 3, 1902.

FORTY-SECOND YEAR
No. 27.

WEEKLY

APIARY AND HOME OF THADDEUS SMITH, OF ONTARIO, CANADA.
(See page 420.)

THE AMERICAN BEE JOURNAL

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CLOSE SATURDAYS AT 1 P.M.—Our customers and friends will kindly remember that beginning with July 1, for three months we will close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

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AMERICAN BEE JOURNAL

ESTABLISHT IN 1861 — THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JULY 3, 1902. No. 27.

Editorial Comments.

Fears Poisoning from Spraying.—We have just received the following letter from a large bee-keeper in Richland Co., Wis., dated June 24, 1902:

EDITOR AMERICAN BEE JOURNAL—

Dear Sir:—We have been having quite an experience in the bee-business, and I write you for some information. Our bees have been very strong, and I never saw more healthy looking bees, or more of them, than we have had all spring. About three or four weeks ago we noticed a few bees looked ragged. Their wings were all frayed out, and they looked badly. Last week there were large numbers of those bees, and the colonies weakened down in quite an alarming manner. We have been studying and thinking of all sorts of causes, and at present we have settled down on the spraying of fruit-bloom as being the cause of the bees going to pieces as they have. The young bees seem to disappear, and now we wonder if it could be possible that the brood reared during fruit-bloom could have been poisoned.

Can you tell what the effect of spraying fruit-trees when in full bloom would be on bees? Would it affect the working bees? And could it affect the brood? Would the brood hatch fed on poisoned pollen, providing there was only a slight poisoning? or would the brood die if there was any poison in the food at all? If it should hatch, could it produce healthy bees?

Now, Mr. York, it has become an alarming subject to us, and we are very interested to know all we can on the subject. The *sick* bees seem to have flown away. There are no bees crawling around the yard as they do with bee-paralysis. The brood hatching now seems to be all right, and the young bees in the hives look as healthy as any bees I ever saw.

This will be enough to start on.

Yours truly,

Now, we don't know a thing about this, as we never saw any bees that were poisoned by spraying fruit-bloom, nor do we remember having read a description of such result. But there may be a number of our readers who have had just the experience this bee-keeper is having. If there are any such, will they please sit right down and write to us the answers to the questions in the foregoing, and also add any other information bearing on the subject? We should be pleased to publish very full replies to the questions asked in the foregoing, as it appears to be a very vital matter, one in which all bee-keepers would be deeply interested. It certainly is a serious affair, as described in the above, and needs to be understood thoroughly so that proper measures can be taken to prevent a recurrence of the disastrous proceedings.

Young Queens and Swarming.—At one time it was held as a safe rule that when a colony contained a young queen of the current year's rearing there would be no swarming. Then it was learned that with Italians exceptions were too frequeent to allow any dependence on the rule. Perhaps, however, there is little difference in this regard as to the behavior of Italians and blacks. The truth seems to be that a colony will not swarm if it contains a queen reared the current year *in the colony itself*, but if a young queen reared elsewhere is introduced it makes no difference as to swarming, even if the young queen should not have been laying two days. Just why there is this difference has not been explained, but it is well to know the fact that a colony inclined to swarm will not be diverted from its purpose by the introduction of a young queen reared elsewhere.

The General Managership of the National.—We have received the following from the former Acting Chairman of the Board of Directors of the National Bee-Keepers' Association, which refers to a statement made by Mr. Abbott, on page 403:

TO THE MEMBERSHIP OF THE NATIONAL BEE-KEEPERS' ASSOCIATION.

In the statement made by Mr. Abbott to the public there are two propositions: First, the Board of Directors of the National Bee-Keepers' Association has the right to receive the resignation of Mr. Secor and elect his successor; or, second, it does not have such right. Let us consider the first proposition. I was appointed Acting Chairman of the Board of Directors by Mr. E. T. Abbott, who was then Chairman, to put the vote on the selection of a new General Manager, Mr. Secor, the old Manager, having sent in his resignation to Mr. Hutchinson. I did so, and the result of that vote on the part of the Board showed six votes for E. T. Abbott, one vote for E. M. Abbott, and one for W. Z. Hutchinson.

I was in doubt whether I could declare this an election or not. I finally turned the matter over to Mr. Abbott, who was Chairman of the Board, saying that I thought that E. M. Abbott was intended for E. T. Abbott, and could be so construed as the "intent of the voter." Mr. Abbott then issued a circular letter to the Board, declaring an election for himself as General Manager, and at the same time announcing that he had resigned as Chairman of the Board. I was then appointed by him as Acting Chairman until a permanent Chairman had been elected.

Subsequent developments showed that the Board was very much dissatisfied with the procedure. The contention was that E. M. Abbott was not *E. T.* Abbott, and that there were only six votes—not a majority. I was criticised for not declaring the vote myself instead of turning it over to an interested party. In the meantime it developed that the resignation of Mr. Secor had not been accepted either by the Executive Committee or the Board of Directors. Some thought that Mr. Secor should have sent his resignation to the Chairman of the Board. To avoid complication Mr. Secor then sent his resignation to me. This I placed before the Board with the result that every member voted not to accept. It was further contended that because this resignation had not been accepted Mr. Secor was legally General Manager at the *very time we were trying to elect his successor*, and that, therefore, the procedure was irregular and the election void. At the time of submitting this resignation I also stated that an appeal had been made from Mr. Abbott's decision to the effect that he was elected General Manager, and inquired whether that decision should be sustained. To this there were ten negative votes and one affirmative. I then announced to the Board that Mr. Abbott's decision (or mine, if Mr. A. prefers to have it so) was overruled, and declared Mr. Secor General Manager.

Let us take the other horn of the dilemma, or the second proposition, viz.: the Board did *not* have the power to accept Mr. Secor's resignation and elect his successor. Mr. Secor tendered his resignation the second time to the Board of Directors, and the Board unanimously declined to entertain it. Mr. Secor has notified the Board that he will continue in office till his successor is elected and qualified. This avoids all complications; and if the Board can not fill a vacancy caused by voluntary resignation, then it has done the proper thing by refusing to entertain a resignation it could not accept (if Mr. Abbott is corrrect), and leave the man in office who was elected at the last *regular* election, when every member of the Association had a chance to vote. If Mr. Abbott's claim is correct, then the only thing that can be done is to leave the matter as it is, and wait till the next general election—only six months away.

My understanding of the matter is that Mr. Secor's resignation is not "before the membership." It has been returned to Mr. Secor marked "Not accepted." He has been unanimously requested by the Board, to whom he is responsible, and from whom he receives instructions, to fill out his unexpired term, and this he has consented to do.

For the complication that has arisen I do not wish to shift all the blame on Mr. Abbott, by any means. Among other things I should have made it my business to see that the resignation of Secor was accepted *before* I called for a vote for his successor, and then I should have declared the vote myself. While it is easy to see what *might* have been done it is not always easy to rectify past mistakes.

To go into all the details of this would require a good-sized volume, and I forbear. It is a matter of deep regret that Mr. Abbott, an able and capable man, should so persistently go against the Board of Directors. If he had quietly acquiesced in the first place, it is my opinion he would have been finally elected General Manager by the Board.

I will conclude by saying that this business has been the most disagreeable of any I have undertaken.

E. R. ROOT,
Former Acting Chairman of the Board of Directors.

Prevention of Increase.—A plan that is in use in Germany with box-hives may also be used with movable-frame hives. When a colony swarms remove the old queen and return the swarm. Eight days later cut out all cells that can be reached but one. (In a box-hive only part of the cells may be within reach, but in a movable-frame hive all are accessible.) If a swarm issues, hive, and in the evening return to the old colony. That will be the end of swarming for the season, and the whole force of the colony will be left to make good work at storing. A variation of the plan that has been recommended in this country is to destroy the old queen and return the prime swarm, then wait till the young queen is heard piping in the evening, and in the morning of the next day cut out *all* queen-cells.

The Weekly Budget.

MR. WM. ROHRIG, of Maricopa Co., Ariz., wrote us, June 17, that "there will be very little honey produced in Arizona this year; it is so very dry."

A. I. ROOT has gone back to his cabin in the woods of northern Michigan, interesting himself in peach-trees, chickens, angle-worms, etc., leaving the younger fry to run things at "The Home of the Honey-Bees."

THE APIARY OF C. C. CHAMBERLIN—the owner wrote us as follows when sending the picture shown herewith:

"I commenced keeping bees when I commenced taking the 'Old Reliable,' in 1893. My hives are all the 8-frame Langstroth size, and my own make. You will notice in the picture that they are all packed in outer cases. The packing material is leaves from the forest, and wheat chaff cushions on top.

APIARY OF C. C. CHAMBERLIN, OF MACOMB CO., MICH.

"My entire crop of honey last year was 1000 pounds, mostly white clover in plain sections. Nearly all was sold for 14 and 15 cents a pound. From 23 colonies, last spring, I increased to 46, and lost one in winering.

"To-day (March 29) the bees are gathering pollen from the willow, and the weather is fine."

A LIVE EXHIBIT AT ST. LOUIS.—"The liveliest live exhibit at the Louisiana Purchase Exposition in 1904 will come from Colorado." Thus spoke Van E. Rouse, the Colorado Springs mine-owner and capitalist, during his visit to St. Louis lately with the Colorado World's Fair Commission, of which he is an active member. "The world generally knows that as a mining country Colorado leads all nations on the globe," continued Mr. Rouse, "and this has naturally created the impression outside of Colorado that all the wealth of our magnificent State is hidden underground. Our exhibit at the World's Fair will show Colorado to be not only great in mining, but that it is a world-leader in horticulture and agriculture.

"The World's Fair management, in their plan and scope of the Exposition, declared they wanted live exhibits, so in casting about for plans to make our exhibit conform to that idea, we interested one of our wealthiest and most public-spirited citizens—Hon. G. W. Swink, of Otero County. Mr. Swink is an apiarist, and he has one of the largest bee-plants in America. He is going to bring his bees to the World's Fair, and they will work here from the time the Exposition opens until it closes. Mr. Swink's plan, which will cost fully $10,000 of his own money, is to bring to St. Louis enough hives containing bees to construct in miniature a counterpart of the Colorado State House at Denver. The bees will then be turned out to find material for honey in the country surrounding the World's Fair grounds. It will require about 640 hives to construct the little State House, and in it about five and one-half million bees will work. It will be a great exhibit. In Colorado we have the finest honey in the world. We have one bee-man who works his bees all the year through. In summer they work in his alfalfa fields in Colorado, and in the fall he ships them to his plantation in Florida, where they work among the flowers and orange-groves until time to return them to the West in the spring."

THE APIARY AND HOME OF THADDEUS SMITH, on Pelee Island, Ontario, appears on the first page. Perhaps we would better say that the picture shows a part of the apiary, with a view of the residence in the background. It will be seen that the hives are all chaff hives, or other double-walled hives. The location is on the northwest point of the Island, and this point is surrounded by water almost on three sides, making it very much exposed to the wind from off the Lake. There is no windbreak, and such a location makes outdoor wintering much more difficult, so Mr. Smith generally suffers some loss. For several seasons he has greatly reduced the number of colonies now kept.

Mr. Smith certainly has a beautiful home.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 405.)

PRODUCING UNIFORM QUALITY AND FLAVOR.

"Can a bee-keeper be certain that from season to season his bees will produce honey of uniform quality and flavor?"

A Member—No, sir.

Mr. Burnett—That is one of the reasons why it is not required to have your name on sections of honey. People get accustomed to a certain flavor, and if they don't get that again, "Oh, well," they say, "this man's honey used to be good, but it isn't any more." It is one of the strong arguments against putting your name on honey.

Mr. Dadant—We have had bees in apiaries (and have now) three or four miles apart; we used to have six; we have four at present. It is hardly ever that the honey from one apiary is an exact sample of the honey in another at the same date. In some parts the honey will be white clover; further on there is basswood next to the honey-field, and this will all affect the taste of the honey. Each apiary will have a special brand of its own. A person who is not accustomed to honey will call it not good, if it tastes different from that he has been accustomed to. There is a difference in honey according to the location of the apiary.

Mr. Moore—Not only would Mr. Dadant find that his two apiaries are not alike, but he will find, if it is as it is up by my house, that the honey this year will not be exactly the same as next year. Another thing you will find is, that the weight will be different from year to year; and that is one of the reasons why some people will ask what size the sections are. If you find a locailty will produce exactly a pound section of honey this year it may not produce exactly a pound next year; that is one of the reasons why it is not the right thing to sell honey by the case. One case will be plump full and heavy, and another case will be lean, and if you sell by the case they will come in and be placed on the market at the same price, and there is no fairness about it. It is not quite the right thing io sell sections by the piece, so long as you can't get the bees to make them of equal weight, and the time has not come when you can get them to do this.

Mr. Spring—Is it not a fact that the quality and flavor of honey from different colonies, even in the same apiary, will differ quite materially, and at the same time?

Mr. Dadant—Yes. A gentleman right by my side called my attention to that fact, which I know to be the case. I knew of a most interesting case of this kind, when bees stored from honey-dew, which is produced on the trees early in the morning or at night. The bees gather it late in the evening or early morning. I remember some colonies of bees being a little earlier than others, and they would go out and get it every morning, while a lot of the colonies near by didn't get any of it, because they got out too late; and some hives had honey almost like molasses, while others had white clover—black and white, side by side.

Mr. Moore—I remember years ago I had an apiary that was working on buckwheat; two colonies stored white honey and the rest buckwheat.

Mr. Blunk—I had one colony this season right the reverse; I had dark honey right through on white clover.

GETTING COLONIES READY FOR THE HONEY-FLOW.

"Will a good queen starting to lay April 15 have her colony in good condition for the honey-flow June 10?"

Dr. Miller—That depends upon the strength of the colony April 15.

AMOUNT OF STORES FOR WINTER—BEST SIZE OF HIVE.

"Is 45 pounds, gross weight, enough to winter a colony of bees?"

Mr. Dadant—Our hives weigh 50 pounds, empty.

Dr. Miller—That depends again upon the weight of the hive and the age of the combs; upon the amount of pollen present. A lot of old black combs will weigh very much heavier than fresh, new combs. Taking the average colony, I should say 45 pounds is rather light.

"What is the best size of hive to use in producing comb honey? Is a 10-frame hive too large for comb-honey production?"

Pres. York—Limiting it to Chicago locality, how many think the 10-frame hive is the best size of hive to produce comb honey?

Ten favored.

Pres. York—How many think the 8-frame hive is the best?

One favored.

Pres. York—Is a 10-frame hive too large for comb-honey production?

Mr. Horstmann—I don't think any hive is too large. The question is, Can you produce comb honey to better advantage in a large hive than a small one? I will use an 8-frame hive until I can prove that the 10-frame hive is better.

Mr. Dean—In regard to the production of comb honey, I don't think it makes very much difference only in this respect: A 10-frame hive leaves the bees in better condition after winter; they will have more ripe sealed honey in the lower story than in an 8-frame hive; consequently I think the 10-frame hive the better.

A Member—How about the 12-frame hive, Mr. Dunn?

Mr. Dunn—I have not tried it long enough to tell.

MISCELLANEOUS QUESTIONS.

"Is the tall section of any advantage in the Chicago market?"

Mr. Burnett—No.

"Does the clipping of the queens lead to supersedure?

Dr. Miller—No.

"What has been the average winter loss in Cook County?"

Pres. York—Pretty hard to tell; I guess not as heavy as in some other places.

"What is the best temperature for a bee-repository?"

Dr. Miller—About 45 degrees. Judge by your own thermometer; find out where they keep the most quiet; find out for yourself.

Pres. York—In other words, attend to your own business. [Laughter.]

"How close can apiaries be located? and how many colonies should an apiary consist of?"

Dr. Miller—That depends.

A Member—Depends upon the flowers.

Pres. York—Suppose the bee-pasturage is pretty good, how near?

A Member—Say within two miles.

Dr. Miller—Three miles.

"How many colonies should be in each apiary, or can be?"

Mr. Hintz—Not over 50.

Mr. Dadant—80 or 100.

Dr. Miller—There is no rule about it. You have to study up your locality; 40 or 50 will overstock some places; you have to find out by experience. After you have had an experience of 15 years in that place then you can make a guess on it.

"Is it advisable to leave the ⅜-inch hive-entrance open when wintering bees out-doors?"

Dr. Miller—Yes.

"With the 10-frame hive for comb honey, can you successfully contract to six or eight frames at the beginning of the honey-flow?

Dr. Miller—I don't know.

"While being very fond of honey I have not bought any for years, because all that I did buy tasted like syrup. How do you account for this taste?"

Pres. York—It would be pretty hard to account for some peoples' tastes!

Mr. Burnett—There is considerable in that question, although I didn't ask it. The facts are, that if you supply people with honey that they are not acquainted with, they will stop using it. Buckwheat honey is preferred by some (of course, they are in the minority, nowadays), but if that has been the honey they are accustomed to, no other will do. Some prefer mild, white clover, some honey from Illinois, others from Wisconsin, and Minnesota and Iowa, and nothing else satisfies them. If you give them Utah, Colorado or California white honey, and they are not accustomed to using it, they at once say, "Oh, that is manufactured honey; it has no taste," etc., and they stop using

honey perhaps for years. Therefore, it is the duty, really, of every one who sells honey, to find what kind of honey the people want who are buying it; if you sell your customers honey that they don't like you lose them.

"How can I keep bees from swarming?"

Mr. Riker—The way I manage it is to give them lots of room and comb to work with.

Pres. York—Does it keep them from swarming?

Mr. Riker—Yes. .

Mr. Dadant—All but about 5 or 6 percent.

Mr. Riker—Give them about 40 good combs to work on.

Mr. Blunk—What time do you give those extra combs?

Mr. Riker—Just as soon as spring opens.

Mr. Blunk—Set one hive on top of the other?

Mr. Riker—Yes, and put the bees in the very upper story.

Mr. Blunk—I have just found out how I can go a-fishing!

Mr. Riker—I have 300 fixed up in that way, and never have them swarm.

(The End.)

[Owing to the Briggs House people being compelled to use the club-room for a guest chamber, with cots, the convention had to break off the interesting discussion suddenly. Mr. Blunk could have started off on a fishing excursion that very minute, had he so desired. He probably did "fish around" for a bed at once.—EDITOR.]

Contributed Articles.

Influence of Worker-Bees on the Offspring.

BY L. STACHELHAUSEN.

On page 246, Adrian Getaz says that to one possessing even an elementary knowledge of physiology it will appear as an error, that the worker-bees have any influence on the coming generation. His arguments are about as follows:

1. The food in which young animals or plants develop has no influence on the characteristics of the animal or plant.

This is generally true, but not always. If corn is raised in a fluid containing hyposulphide of magnesia the young plant will bear blossoms quite different from that of corn. Frog-eggs develop into quite other frogs in water containing salt, from sweet water. In the animal kingdom we have another example in our bees. An impregnated egg can develop into a queen or into a worker-bee, and which one will develop is decided by the nourishment of the larva. We know a worker-bee is not simply an undeveloped or crippled queen, as in the worker-bee the digestive organs are fully developed, which are missing or not fully developed in the queen; the same is true with other organs. But this is not the most important point in our question.

2. He thinks that queens, drones and larvæ are fed by worker-bees, and this food is only a secretion of glands, consequently can not transmit more qualities than the milk of the wet-nurse to the baby—that is, nothing at all.

It is a mistake that the food given to the queen and young larvæ is a secretion of glands simply. Certainly the eggs are produced out of the blood circulating in the body of the queen; but the production of this blood is something quite particular to bees. How the food in the bee-body is digested, and how the blood is formed, it seems Mr. Getaz does not know—only so much, that from the food the chyle is prepared in the true stomach, and for assimilation this chyle simply passes the wall of the stomach and is blood then, without being changed in any way. Now, in the queen all the organs for digestion are either entirely missing or rudimentary, only in such a degree that the queen can't digest at all—and can't renew her own blood; nevertheless, for laying so many eggs as she does, she needs an enormous quantity of new blood. This is possible only because a number of worker-bees prepare this chyle, feed it to the queen, and it passes the wall of her stomach. So we can truly say that the digestive and blood-forming organs of the queen are in the bodies of the worker-bees.

Now, we have to consider a deciding point. Except with the lowest organism, life is connected with cells, which grow and multiply by splitting. Where we find such cells we have life. In the intima of the chyle-stomach are a great number of such cells which split, and a part of them is mixed with the chyle in the stomach. The same cells we find in the blood of the bees, and they represent the blood-globules of higher animals. Consequently the chyle fed by worker-bees to the queen is not a simple food, or a secretion of glands, but an organic, living part of the worker-bees, and identical with the blood. It is the same as if the blood from the veins of one man would be pumped over into the veins of another man. Mainly this particular quality of the bees forces us to consider the whole colony as a unit organism, while the single bee is only a part of this organism. The worker-bees and the queen belong to an individual organism in the same sense as the sexual organs, digestive and other organs, belong to one and the same mammalia. The fact that two important functions of life are separated in two separated bodies as yet hindered this conception, till we found the way in which connection is secured.

For this conception it is not more difficult to explain how worker-bees can transmit through egg or sperm-cell, or through both, their qualities to the young bees, as it is to explain how the quality of the brain or the color of hair of men is transmitted from parents to children and grandchildren. Neither the brain nor the hair produces something like an egg or a sperm-cell (as Mr. Getaz erroneously says is necessary), but the connection is secured by the blood, especially by the blood-globules, and we do not know as yet how the qualities of these organs are transmitted to the sperm or germ-cell and through them to the offspring. With bees it is quite the same.

We may say what we please, the fact that queens and drones never gather honey, never build combs, never feed larvæ, etc., forces us to suppose an influence of the worker-bees on the egg or sperm-cell, or on both. From these cells nothing else can develop but something very similar to the ancestors. The fact that from an unimpregnated egg a male bee, and a male bee only, can develop, is no proof against this. The drone has no father, but he has a grandfather. Do you see?

Mr. Getaz tries to explain the different characteristics of bees by saying they follow the example of other bees. If you take a comb of capped brood and set it in a nursery, and let the bees gnaw out there, these bees have never seen any other bee, nevertheless they will nurse given brood, rear queens, build combs, will afterwards gather pollen and honey, etc., and will occasionally sting you just like other bees in your apiary. How could this be possible if these instincts should not be transmitted to them? All this can not be explained if we do not suppose an influence of the worker-bees?

As I said above, from an impregnated egg a queen or a worker-bee can develop according to the nourishment given to the larva. This does not prove that by this food any quality of the worker-bees is transmitted to the larva; to the contrary, I am like Mr. Getaz, of the opinion that this is very improbable. The power to develop into a queen, a worker bee, or into a drone, must be inherited in the egg. If the egg is impregnated the power for development into a drone is getting dormant, but is still present and latent. The environment of the larva decides whether the development takes place in the direction of a queen or a worker-bee. This can be proven to a certain degree by the bees, which are between queen and worker, not only in size but in consideration of the inner organs, too. They will appear when a larva a short time before the cell is capped is selected by the bees to rear a queen. The digestive organs have already commenced to develop, and this can not be stopped any more; the ovaries develop better than in worker-bees, but not quite as well as in good queens. This proves that the environment of the embryo (the larva can be compared with the embryo of higher animals) has some influence on the development, but that hereby any quality can be transmitted is doubtful, if not impossible.

We see that a general knowledge of physiology is not sufficient to decide such questions—a special knowledge of the physiology of the honey-bee, too, is necessary. In all these questions we should not simply condemn *ex cathedra* another man's opinion. With all our knowledge a new discovery may change that—prove what we believed to be correct to be an error. Mr. Getaz's opinion was generally accepted as correct until about 20 years ago, when the above-mentioned particular qualities of the honey-bees were discovered.

Bexar Co., Tex.

No. 5.—Rearing Long-Lived Queens and Bees.

BY DR. E. GALLUP.

Degeneration is, growing worse, or a losing of good qualities; a decline from the virtue and worth of ancestors; a decay of the natural good qualities of the species; a falling from a more excellent state to one of less worth. The thing degenerated.

Now, I am going to call those queens that breeders are sending out, "Degenerates." For the majority of them have degenerated to a remarkably low state of worthlessness; so worthless that they will ruin any good colony that they are introduced to.

Now, the question is, What are we going to do to renew our stock again? "Why," one says, "send to Italy and get fresh stock again." Well, let us see how that works. A number of years ago A. I. Root ordered and received some 50 queens in the fall. The following spring he offered them for sale. I ordered two, received them some time in May, introduced them to strong colonies successfully, and about the middle of June I thought I would rear some queens from them; on examination I found but very little brood in each hive, and both queens superannuated and worthless, and colonies very much reduced in numbers, etc. Now, those queens I have not the least doubt were degenerates; reared on the nucleus plan, for lots of the queens we get die the first winter, and nearly all of the balance die the following season. The Italian breeders have "caught on" to our methods of rearing degenerates.

Mr. Adam Grimm personally went to Italy and selected his own queens from colonies that had cast natural swarms that same season. Consequently he got all young, vigorous, prolific, and long-lived queens. He was well informed how to keep his stock up to the standard. When he shook hands with me and bade me good-bye at the Cincinnati convention, he said, "Gallup, I will send you a queen next summer that is a queen." The following June I received the promised queen. She lived to be six years old, and kept up her prolificness without one particle of diminution until the sixth season. She was one of the very best queens I ever received from any one. I reared my Iowa stock from her. The queen whose bees produced upwards of 700 pounds of surplus honey in one season was the mother of that colony.

The swarm was put into the hive on May 10, and never received any help from other colonies except filling out the balance of the hive (as soon as the bees commenced building drone-comb) with empty ready-made worker-combs. The hive contained 48 Gallup frames, all on the ground floor. That queen and progenitors had never been degenerated, consequently her workers were long-lived, and they did work, too. But according to Dr. Miller and Mr. Dadant they ought to have worked their lives out in short order. Work does not make short-lived bees by any means; it is the long-lived bees that do the most work, every time.

I now have one of those degenerates of last season's rearing, at least I ordered her untested, and I do not dispute it, for her workers are so short-lived that the colony can not get on at all, and the queen is now failing. The bees are dying off with old age so rapidly that the ground is continually specked with dead bees, so that I sweep them up every day, and there are from 50 to 100 dead bees pushed out of the hive in front of the bottom-board early every morning. It is your spring dwindling, only here it is summer dwindling. There is no disease about it. It is simply degeneracy of the worst kind—for breeding for fancy color, as the bees are beauties. I prefer bees for profit, not fancy.

Now, you fellows that wish for a strain of bees that do not swarm, and wishing for some one to breed out the swarming habit, just send to that breeder for your queens. He will certainly satisfy you. But your non-swarmers will produce no profit. It makes no difference if their tongues are six inches, or even a foot long, if they have not the strength, longevity or vitality to handle that long tongue where is the benefit coming in? I have not the least doubt but the longevity of that class of bees is only about 30 days, and the longevity of the Grimm queen's workers were at least 90 days in the height of the working season. I have had them—at least a portion of them—live from the first of May until the first of September, and they did not sit around doing nothing, either.

Some of the bee-keepers here are in the habit of requeening with untested cheap queens from the South every spring. I am aware that many of those cheap degenerates start out quite well the first season, but if they do not die the first winter they dwindle so low in numbers that we lose the orange-blossom flow entirely, which is quite an item here in the valley.

To illustrate: I obtained a small, starved-out black colony last fall, but they had a natural queen, and they filled the hive and two supers with combs, honey, etc., and are now a rousing colony with lots of bees from bottom to top, and 13 Langstroth frames well filled with brood.

Now, here is another fellow who jumps up and says, "Didn't I tell you so? The blacks are the best bees for me." Don't you know that one swallow does not make a spring? I have seen him try to do it in Canada, but he froze to death in the attempt.

We have had three days of cool, dry northwest wind which stopped the honey-yield, and those blacks have to fall back on the stores, and so do the Italians from my purchased queens. I have two queens of my own rearing that have been in their hives long enough to have their workers old enough to work outside, and they keep right on working, and are storing more than they consume. It is just fun to see them work late and early, while the others are sitting around doing comparatively nothing. This black queen was reared at natural-swarming time. My purchased queens are all degenerates, even a long-tongued one purchased this spring has, by coaxing, filled just two combs with eggs in the same time that my own queens have filled nine each.

I am not satisfied that I can rear the best of queens from these degenerates, either in the first or second generation. Now rear your black and Italian queens under the same conditions and then you will be a better jury-man to decide the case.

I have seen seasons when the blacks would starve to death and the Italians would make a living and store some surplus. Degenerate your blacks in the same manner that the Italians have been, and see where you come out.

Orange Co., Calif.

(Continued next week.)

The "Singing" or "Piping" of Queens.

BY G. M. DOOLITTLE.

"I have something strange to tell you. I have something in the way of queens which I never heard of before, although I have devoured everything I could find on bees for several years. I have an Italian queen that sings like a hen. She sings when moving among the bees as well as when still, and so loudly that she can be heard five feet away when the hive is closed. The day before I heard this strange noise I cut out all the queen-cells, but could not find the queen. The next day I resumed the search for her, and very soon, upon opening the hive, I found her singing as happy as a lark. It was not a piping noise, but a regular singing, something like a laying hen; and, besides, it was an old queen; and, as I read, it is only young or virgin queens which pipe. What do you think is the cause of it?"

I am inclined to believe that it was what is called the "piping of the queen" which our correspondent heard, and nothing else, notwithstanding that he says, "It was not a piping noise" which he heard. I believe it a mistaken idea which many adhere to, that virgin queens are the only queens that pipe; for I have heard queens two and three years old pipe many times, although the noise made by them is not quite so sharp, or so shortly cut up as that of the virgin queen, where there are rivals in the several queen-cells still remaining in the hive. There seems to be more intense hatred toward rivals on the part of a virgin queen than with laying queens, but, when thwarted in her purpose, a laying queen will resent it as well as a newly-hatched virgin.

I think I am justified in saying that there are few queen-breeders who have not heard laying queens pipe, or call to each other, where a number of cages containing queens ready for shipment were placed near together and left thus for a short time, although I have never heard any breeder say so, or talked with one regarding this matter. And I doubt not but that very many who are not queen-breeders, who have ordered several queens so that they have received them at the same time, and have left them near each other preparatory to introducing them to different colonies, have heard this piping or singing noise produced by said queens while in the confinement of their cages. I have heard it hundreds of times with laying queens when preparing them for shipment, and many times from the cages of those I have received. Our postmaster often remarks about how the queens I put in the office "sing," and, only a few days ago he said in handing me some which had come in the mail, "This is a singing lot. They have kept it up ever since I opened the mail-bag they came in."

Anything which enrages queens and causes them to

cease laying will sometimes cause them to go to piping; and the cutting of the queen-cells from the hive, as did our correspondent, at a time when the queen had a great desire to swarm, will cause this result. Years ago, when I was told that the cutting off of the queen-cells would stop the issuing of prime swarms, I often had instances of "singing queens," and in every case where the old queen was incensed enough (over herself, and the colony not being able to carry out their purpose of perfecting queen-cells) to go to piping, the result would be the issuing of a swarm, sooner or later, without the construction or completion of queen-cells, providing the weather continued favorable for swarms.

Another thing I found was that any queen which was enough enraged so that she began piping, would not lay any eggs while this piping continued, or during the time of her enragement, which was shown by her continued piping or singing.

Again, I have had queens which would begin to sing or pipe as soon as put on the combs, in any effort to introduce them to a strange colony, and as soon as this was done the whole colony would be set into a commotion, which resulted in the bees balling this queen almost immediately on her piping, while she had walked about unmolested until she began to sing. And after releasing her from the ball of bees with smoke, and putting her into a cage, the bees would give the cage very little notice until the queen again began to make angry demonstrations through her piping, when a rush for the cage would be made, so that, where the cage had been left on top of the frames, a cluster of angry bees would form over it three or four inches deep.

Of all the hard queens to introduce it is one of these which persist in going to piping as soon as they come in contact with strange bees. In one instance I was three weeks in trying to introduce such a queen, which came from the State of Kentucky, and, after the bees had apparently accepted her, she began to pipe on my opening the hive, and was stung and killed right before my eyes, before I could release her from the ball of enraged bees, which were treating her kindly when I first opened the hive, and before she began to sing. In looking her over after she was dead, I could not help remarking to myself, "You sung just one too many times for your good, old lady."

Onondaga Co., N. Y.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

CYPRIANS AND PUNICS.

If I didn't use those "unreliable glasses" once in awhile I wouldn't be living up to contract. And when I illustratively kick the emptiness of a hive of Cyprians, and they come out at me, am I not getting my full dues? [B. E.] Goodnough for me! So Cyprians still have some keepers and champions, it seems, and are not universally abandoned. Here's a kick for the Punic hive; let us see if they come out. Cheap way of getting information. Page 316.

SUNFLOWERS AND ARTICHOKES.

So in Atchinson Co., Kans., they combine against sunflowers as dangerous weeds, and "labor" with a neighbor if he inclines to plant a few. Queer. Mr. Wiltz's way of checking the spread of an artichoke patch by clipping the tops below the bloom, is of interest and value. Page 317.

THAT DENVER DINNER—OTHER COMMENTS.

The hungry bee-men can have a dinner by going to Denver after it. The idea!

The bottom lines of my column, on page 361, are criticised from a literary point of view. Ashamed of them.

Dr. Miller's reversible bottom-board seems to be *the* bottom-board—now he has got it so it does not reverse. Page 325.

So alfalfa honey is splendid to dilute all honeys of too decided flavor. Evidently correct, and a valuable idea, Mr. Chantry. Page 328.

GIANT CACTUS FRUIT AND THE INDIAN.

And the fruit of the giant cactus, agreeable to the palate, but too poisonous for white men to eat, is eaten by the Indian. Our friend "Lo" also eats freely of wolf-meat poisoned by strychnine. A white man would hardly want to try it. I wonder whether there is *really* any difference in the races of men, as to their susceptibility to poison, or whether a pack of white outcasts and tramps would hold their own with the fattest—or say the leanest—of them. Page 324.

EXPERIMENTS IN RENDERING WAX.

When we have a man with money to scatter around, *a la* C. Davenport, page 327, let's pick up what we can of it. Old style of rendering wax had the floor—voted not good enough. New Ferris press obtained—voted in need of improvement. Massive improved Ferris built—voted not good enough, and sold cheap. A wholly-under-boiling-water press built at a cost of $29—voted to sell it for $7.00—sorry afterward he didn't keep it. Root-German steam press also—voted not good enough. Three or four machines built, at odd times, and for good measure—voted not good enough. Lastly (in this world there must always come a lastly) came a two-stand, two-man, long lever, screw press and boiler—and left the wax in, even when the amount of power applied smashed the big screw. Bare hand could squeeze some wax out of the warm refuse even then. Conclusion: Repeated moderate pressure between stirrings better than immense pressure once for all. The perfect method seems not to be here yet.

THE TRUST AND INDIVIDUAL LIBERTY.

We would fain be a trifle ashamed for the witlessness of some of our fellow craftsmen—think they can have the consolidated power of a trust and individual liberty, too—ride without getting on. Page 327.

SECOND-HAND OIL-CANS FOR HOLDING HONEY.

Thunder wanted! Sad that thunder, even when the weather furnishes it most plentifully, can't be used second-hand. Oil-cans can. The genuine thunder not being in stock, give 'em the best fraudulent thunder in the office, Mr. York. Page 339.

THE BEST RACE OR STRAIN OF BEES.

There are so many things which affect the apparent value of a colony of bees, and make it seem better than its neighbor when it is not, that I would not set a beginner at extinguishing one strain and booming another. Should he flip a coin to decide which one to boom he would hit right just about as often. Tough problem for old heads; and they can't solve it without more than one year to do it in. Page 339.

HONEY IN CUBA AND JAMAICA.

Pounds of honey per square mile: Cuba, 113; Jamaica, 358. I think this is because Cuba just now is a great part of it unoccupied with bees. Never fully occupied, and the war destroyed nearly all. Page 340.

HUNGER, NOT HUNGRY, SWARMS.

On page 346 I am made to designate the little swarms which come out in early spring—come out because their honey is gone, or nearly so—as "hungry swarms." Doubtless they are hungry; but the term as I have seen it used is "hunger swarm;" and hungry in that connection is the opposite of an improvement.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Running for Comb and Extracted Honey.

I have a question to ask you in regard to a plan I have for running my apiary for comb and extracted honey, and at the same time wish to keep down swarming.

I put on top of the queen-excluder all frames of brood, leaving the queen below on empty frames. Our main white honey is from alsike clover and basswood, which I would like to get in the sections.

If I raise the upper hive and place a super of sections on the excluder during the white honey-flow, removing the

same when nearing the close, allowing the bees to finish up the season in an extracting super, would it be likely to work satisfactorily? If not, why not? NEW YORK.

ANSWER.—I should expect the plan to work satisfactorily if there was a sufficient harvest to fill both the extracting combs and the sections, but if there is not enough for both you may expect the sections and not the extracting combs to be neglected. There have, however, been some reports of failure when the queen has been left below on empty frames.

Keeping Ants and Moths Out—Superseding Queens.

1. How can I keep moths and ants out of my hives?
2. Can I get them out after they get in? If so, how?
3. What makes the bees come out and seem to fly in front of the hive as if they wanted to go in?
4. If a queen is superseded is it advisable to requeen, or will the bees rear one?
3. How can I tell when she is superseded? MAINE.

ANSWERS.—1. A moth can go wherever a bee can, so there is no possible way to shut the moths out without shutting the bees out. But you may depend upon the bees to keep them out. With a strong colony of Italians you need not give the least thought to moths; even a weak colony of Italians will not be troubled much. A strong colony of blacks will take pretty good care of itself; but a weak colony of blacks is in much danger. Better have Italians, and keep them strong.

2. Take a sharp-pointed nail and pick open one end of the gallery of the worm, then start at the other end of its burrow and chase it along till it comes out, and then dispatch it.

3. They are trying to fix in their little heads the location and surroundings, so that when they come home in a hurry from the field with a load they need not spend any time in hunting for their home, but make for it in a bee-line. It is only the younger bees that you will find thus "marking their location."

4. If the bees supersede their queen the only thing for you to do is to let them alone. A young queen is always reared before the superseding.

5. Clip your queens' wings; then if you find a queen with whole wings you will know she has been superseded.

It will pay you to study well your text-book.

Why Don't They Swarm?—Swarms Leaving After Being Hived.

1. I have a strong colony of bees which I have been expecting to swarm. To-day (June 8) I examined the hive and find no queen-cells, but worker-larvæ and drone-cells. They are storing honey in brood-frames and supers. What is the reason they do not swarm?

2. What is the reason for a swarm leaving a hive after being successfully hived? SOUTH DAKOTA.

ANSWERS.—1. Sometimes bees appear to get so much interested in a strong flow of nectar that they can not spare time for such matters as swarming. Sometimes certain strains of bees are so little given to swarming that if they have plenty of room, are well ventilated and well shaded, they will seldom swarm, whatever the conditions may be. If you have such bees, be thankful.

2. The chances are that they are too warm. See that there is abundant ventilation, perhaps leaving the cover partly off for a day or two and having the hive raised on blocks, and providing good shade. Some take the swarm into a cellar for a day to let it cool off.

Prevention of Swarming More than Once.

1. What are the best methods of swarming after increasing once?

2. What is the best method of artificial increase by dividing?

3. Can swarming be prevented by the use of queen-traps? WASHINGTON.

ANSWERS.—1. When the prime swarm issues hive it and put it on the old stand, putting the old colony close as possible beside it. A week later remove the old colony to a new location at least six feet away. That will weaken it down at about the time the young queens will be emerging, and that weakening, together with the fact that no honey will be coming in (because the field-bees have all joined the swarm) will so discourage the old colony that there will be small chance for further swarming.

2. That depends upon circumstances, and it would take too much room to give all the plans here. In late numbers of this journal you will find the question answered more than once, and it may be repeated here that perhaps for most persons the nucleus plan will prove as good as any. When you have succeeded in getting a young queen to laying in a nucleus, gradually add brood to build it up, unless it be early enough in the season so that it will build up without any help.

3. No. The queen can not leave, but the swarm will issue all the same, generally returning, and after a week or ten days a young queen will emerge and the old one will be killed. Then, *theoretically*, after several days more, all the young queens but one having been killed, the trap should be removed to allow the young queen to make her bridal trip, and all would be serene and lovely. *Practically*, it is a failure. It will do no harm for you to try it in a few cases and see how it works with you.

Bees Killing Each Other Off.

I have 3 colonies of bees and they seem to be killing each other off. There are hundreds of dead and dying bees outside of each hive. At first I thought they were robbing each other, but that does not seem to be the case. It looks to me as if they were killing off the young bees, both drones and workers. What is the reason? and what can I do about it? I think they have plenty of honey. I thought perhaps they wanted to swarm, but the weather was not favorable. WASHINGTON.

ANSWER.—If they are not robbing or starving, I don't know what the trouble can be, unless they are poisoned. In the latter case, the probability is that you can do nothing.

Kankakee Co., Ill., as a Honey Locality.

I am a beginner in the bee-business, and have 54 colonies—quite a beginning. Two things I did right, I am sure, for I bought the "A B C of Bee-Culture" and subscribed for the American Bee Journal. My bees are nearly all pure Italians. I am thinking of putting in all my time caring for the bees, and would like to increase my apiary to 200 colonies, or more, if I find it can be made to pay. May I ask you a question or two?

1. Is this county (Kankakee) a good honey-producing territory?

2. In what section of Illinois is the largest honey-yield, per colony, obtained? ILLINOIS.

ANSWERS.—1 and 2. I am sorry to be obliged to say I don't know the right answer to either question. If any one has the information I will gladly yield the floor. Some one in that region who has had experience, or who has had opportunity for observation for a series of years, may be ready to report as to the character of that county; but I am not very hopeful as to obtaining a reliable answer to the second question.

Starting with Bees in Mississippi.

I have been keeping bees for something less than a year, and as my limited experience, supplemented by such scraps of arbitrary information as I am enabled to gather from the natives here, is somewhat at variance with statements made in the papers, and other advanced sources, I beg permission to state my case so far, and ask to make such comments as you see fit, that I may know where to look for improvement.

In this section "patent gums" (as hives are called) were unknown until I came, and I was assured that bees never would work in them. But wild bees are very abundant here, and when any one wants honey (which is when they develop sufficient interest in life to want anything), they simply go a little way from their homes in the woods and cut a bee-tree.

Well, I bought 5 colonies of bees last December from up the road, and when they reached me all the combs were broken out of the frames and lay in a mass of honey, bees, etc., on the bottom-boards. I was too busy at the time to give them any attention further than to place them on stands and let them alone. During March they all swarmed

twice, and I now have 15 colonies. I have since transferred them to new hives. Only one of the parent colonies gave any surplus, and the other 4 seem to be dwindling away, though they have a little hatching brood.

Now for the swarms: The first were large prime swarms, and the second about a quart of bees each. Their history is about the same, so I will describe but one. I hived it about March 15 on inch starters; April 1 I gave it a super, which was promptly filled. April 15 I gave another with ditto results; April 25 I gave a third, and some filled this, but when I gave the fourth all work in the entire apiary suddenly ceased, and only a few burr-combs were made in the sections. The old colonies also did nothing at all. I might mention that the weather has been very dry.

1. Now, is the honey-flow over?

2. Will any more honey be gathered in the fall? The natives assured me that bees never build comb here after May 15. MISSISSIPPI.

ANSWERS.—1. I don't know. I never can tell for sure when the honey-flow is over for my own bees. Sometimes the flow will stop for two or three days, and then start up again from the same flowers.

2. That depends upon the flora in your neighborhood, and upon the season. On general principles I should make a guess that there will not be an entire dearth of pasturage from May till winter. However, some dependence should be placed upon the word of the natives, especially if the natives are experienced and observing, and it is just possible that generally there is little pasturage for the bees except very early. Make observations for yourself, however. You may rely upon it that bees will build comb at any time they need it.

Requeening at Swarming-Time.

Suppose you have inferior queens in a few colonies, and you want to replace them at the time of swarming by using the swarms of your best colonies; that is, without going to the expense of buying queens, neither increasing the number of your colonies. How would you proceed?

CANADA.

ANSWER.—Here's one way: When one of your best colonies swarms, hive the swarm on the old stand, and brush into the swarm all the bees from the brood-combs. Set this hiveful of combs on or under a hive containing a poor queen, destroying the poor queen. A young queen will be reared from one of the queen-cells of good stock. Look out for a swarm when the first queen emerges from her cell, returning the swarm in the evening of the same day on which it issues. Or, seven or eight days after the issuing of the prime swarm, listen in the evening for the piping of the young queen, and if you hear her, destroy all remaining queen-cells in the morning. Or, cut out all but one queen-cell before it is time for the first young queen to emerge. Of course, you can divide up the brood and cells, and treat more than one of the colonies having poor queens, if you so desire.

QUEENS!

Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North.

The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

We have files of testimonials similar to the above.

Our Breeders originated from the highest-priced, Long-Tongued Red Clover Queens in the United States.

Fine Queens, promptness, and square dealing, have built up our present business, which was established in 1888.

Prices of GOLDEN and LEATHER-COLORED QUEENS, after July 1st:

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Selected	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	9.00
Selected Tested	1.50	8 00	
Extra Selected Tested, the best that money can buy..	3.00		

We guarantee safe arrival, to any State, continental island, or any European country. Can fill all orders promptly, as we expect to keep 300 to 500 Queens on hand ahead of orders. Special price on 50 or 100. Free Circular. Address all orders to

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PARKERTOWN, OHIO.

[Parkertown is a P. O. Money Order office.]

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Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES, 995 Ruby St., Rockford, Ill.

Danzenbaker Hives.

☞ In flat and made up—at very low price. ☜

50Ctf O. C. MASTIN, Trent, S. D.

GENERAL ITEMS

Bees Doing Nothing.

Bees have done nothing since May 30. White clover was never more abundant. It is cold and cloudy, but no rain.

HENRY ALLEY.

Essex Co., Mass., June 17.

Vervain or Verbena.

I enclose a flowering weed which seems to be a favorite with our bees in this section of country. What is it? Is it valuable as bee-pasturage?

EAST TENNESSEE.

[The specimen is a member of the Vervain or Verbena family—Verbena angustifolia—and along with its more conspicuous relative—the white and blue vervains—it is a good honey-producing plant. Prof. Cook, in his "Bee-Keepers' Guide," pages 374-5, mentions the vervains as good honey plants.—C. L. WALTON.]

Bees and Pear-Blight.

I want to ask how it is that trees that have never blossomed are all at once attacked and die outright in a short time? I once had a seedling, near bearing age, turn black and stop growing, and die in a few days.

I had a large Bartlett orchard, and most of it turned black. It had had high culture. I seeded it to grass, and the next season the blight struck half of the upper portion. I have had Dwarfs blight the same, and not a blossom on them.

Why, it is nonsense and all bosh to talk about bees doing the spreading of blight. How much more reasonable to say the many insect-catching birds carry the germs, for we know they are

To make cows pay, use Sharples Cream Separators. Book Business Dairying& Cat.212 free.W.Chester,Pa

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A Journal that is over a quarter of a century old and is still growing must possess intrinsic merit of its own, and its field must be a valuable one. Such is the

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50 cents a Year. Mention the Bee Journal.

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j. j. a.

Low Rate Excursions.

On July 5 to 9, inclusive, the Nickel Plate Road will sell tickets at one fare for round-trip to Portland, Me., and return, with final return limit Aug. 15th. Particulars at City Ticket Office, 111 Adams St., Chicago. 25—26A2t

searching for insects, and in doing so have to grasp branches and spurs all through the trees. I have seen them search even the blossoms.

I am a bee-keeper and quite an extensive fruit-grower I have looked into the matter quite a little, and I am very sure the bees have nothing to do with blight.

I am sure the bees are of great value as pollenizers, and it is an awful mistake to spray during blooming time; it is sure to kill the pollen as well as the "goose that lays the golden egg" —the bees. E. P. CHURCHILL.

Kennebec Co., Maine.

Too Much Rain.

This is a very poor season for the busy bee to gather honey from every opening flower, as it rains or pours almost every day or night, so that it washes the nectar all off of the flowers. There is an abundance of white and alsike clover, and basswood is budded ready to blossom. The bees are not swarming any to speak of.

IRA D. HYDE.

Washtenaw Co., Mich., June 15.

Moved Bees on Wagons.

I have moved the greater part of my bees from Columbia County to Wood County, and will be here the most of the time. I moved them on wagons 75 miles or so, over all kinds of roads. We repaired bridges, forded streams, went through mud and chuck holes up to the axles. We did not break a comb, but the bees suffered a good deal, and there were a great many dead ones when we arrived.

We were from Tuesday morning (May 20) until Friday noon getting here. The weather was very hot.

White clover is quite thick here; it has been coming into bloom quite fast the past week. E. M. HAYES.

Wood Co., Wis., June 13.

Wiring Comb Foundation with Electricity.

To fasten foundation I place a Hoffman frame, inverted, in the jaws of a vise and string the four wires tight. I next lay in a sheet of wax and insert the wedge.

I have two flexible wires attached to six dry batteries, such as are used for ringing door-bells and telephones connected in series, that is, the wire from a zinc pole leads to the carbon of the next. I make a hook on the end of one of the battery wires to hang the wire on in the frame. With one hand apply the other battery wire to the other end of the frame, and heat one cross wire at a time, using the free hand to press the wax against the wire which is warmed. F. H. DRAKE.

Worcester Co., Mass., June 12.

Sulphur for Bee-Paralysis.

I wish to tell "Ohio" (page 378) that his bees have bee-paralysis, and that sulphur will cure it. I have had it in my apiary for three years. I have tried salt but it did not do any good, and in rainy weather it makes the hives too damp.

This spring I tried sulphur; it cures every time. I take a flour-dredger and dust it over the combs. You will see

Bee-Keepers—Attention!

Do not put your money into New Fangled Bee-Hives, but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado -one of the largest honey-producing sections in the world—use this style.

Thousands of Hives, Millions of Sections, ready for **Prompt Shipment.**

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Famous Italian Queens!

BUCKEYE STRAIN OF 3-BANDED LONG-TONGUES are wonderful honey-gatherers. One customer bought 10 dozen. Just think of it! (He bought a few last season as a trial.)

MUTH'S STRAIN GOLDEN ITALIANS.

As fine as money can buy. Either of the above by return mail, 75c each; 6 for $4.00. Selected tested, best money can buy, $1.50.

FULL LINE OF THE FINEST DOVETAIL HIVES AND SUPPLIES. Send for Catalog. THE FRED W. MUTH CO.,

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FOR SALE 100 Langstroth Winter Hives, Supers, Zinc-Honey Boards, Bee-Escapes and Feeders. KARL KEIM, 24A4t 149 YORK ST., BUFFALO, N. Y.

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We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.

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Cheap Rates to New England via New York City.

One fare for the round-trip via Nickel Plate road to Providence, R.I., and return, July 7, 8 and 9; final limit returning Aug. 15th. Three trains daily, with first-class modern equipment. Meals in dining-cars at reasonable price. Going and returning via New York, if desired. Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for particulars. 24—26A2t

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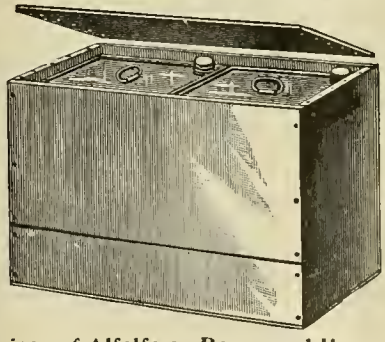
Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

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an improvement in less than two weeks, and it is seldom that I have to give more than one dose. If it makes its appearance again give them another dose. The sulphur has the merit of being harmless.

When they go into winter quarters with that disease they are reduced very weak in the spring, and if they build up they do not seem to have any energy.

What a bad spring for bees in this part of Minnesota—cold and rainy. The maple buds were frozen, and the bees did not gather pollen for a long time after leaving the cellar. It is now June 15, and cold and no swarms. They commenced swarming June 4 last year. MRS. E. B. HAWKINS.

Wabasha Co., Minn., June 15.

Hardest Spring on Bees.

This has been the hardest spring on bees since I have been in the business. I lost 20 colonies—almost all dwindled. The spring was cold and windy.

I have not had a swarm this spring. Quite a number of colonies are weak. The weather has been so cold that they don't build up fast.

G. W. BELL.

Clearfield Co., Pa., June 12.

Bees Starving.

Bees are doing poorly on account of the wet weather. There is no white clover yet, and they need to be looked after or they may starve. They are killing the drones, and that is a sure sign of starvation.

L. HIGHBARGER.

Ogle Co., Ill., May 12.

California Crop Over-Estimated.

The honey season has been grossly over-estimated in Southern California. I do not think it will average one-fifth of a crop, and in some localities that are considered among the best in favorable seasons will produce none at all. The weather was so unfavorable during orange-bloom that little surplus was stored, and then there was an excessive amount of swarming in both comb and extracting apiaries.

L. L. ANDREWS.

Riverside Co., Calif., June 6.

California—"Boom, or Busted."

As I promised a report of my last year's honey crop I will turn it in now. It is rather late, so I don't think it will do any one any good, neither will it do harm.

I think we can as individuals come nearer an estimate of a crop, after it is harvested, rather than before. Apropos Prof. A. J. Cook's California crop report, on page 347.

Now, every one who knows Prof. Cook, either personally or through his writings, knows what a great, big heart he has, and that it is exactly in the right place, and if he makes any mistakes they are of the head and not of the heart.

From all that I can gather the honey crop of Southern California will be very, very short. I have reports from San Diego County, Los Angeles, San Bernardino, and I am situated in about the center of Riverside County. All reports are for a total failure, or very light crop in my own vicinity. Bees will just about make enough to carry them through to next year in four counties of the seven of Southern California that produce large crops, and Orange County lies contiguous to Los Angeles, San Diego and Riverside Counties, so that puts it in the doubtful list. As I said, the bees in this vicinity will just about make a living; quite a fall from last year, but this is California—"boom, or busted."

I began the season of 1901 with 147 colonies in three different sizes of frame hives and various sizes of boxes. I had built 1000 new combs in Langstroth frames from 1½ inch starters of foundation; at the end of the season I had all of my bees (150 colonies) in Langstroth hives, had 30,500 pounds of extracted honey, and 536 pounds of beeswax.

I increased just 3 colonies, and I did all of my transferring after the honey-flow was over. My honey was well ripened, and of first-class quality.

From June 3 to July 1 I extracted six tons. That was one of my successes; later I will tell how I manipulated to obtain that result.

I run every tenth colony as a reserve, and as they filled one super up I would put on another, and tiered them up to the end of the season, then distributed the honey through the apiary, and quite a lot of it is there yet.

J. W. GEORGE.

Riverside Co., Calif., June 7.

—ITALIAN—

BEES AND QUEENS!

We have a strain of bees bred specially for honey-gathering and longevity. We feel confident of giving satisfaction.

PRICES for the remainder of this season:

1 Untested Queen	$ .60
1 Tested Queen	.80
1 Select Tested Queen	1.00
1 Breeding Queen	1.50
1-Comb Nucleus, no queen	1.00

J. L. STRONG,

204 East Logan St., CLARINDA, IOWA.

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PAGE

A Good Way

to begin fall fencing is to write for our catalog. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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Low Rates to Atlantic Coast Points.

July 5 to 9, inclusive, the Nickel Plate Road will sell tickets to Portland, Me., and return, at one fare for the round-trip. It will be to your interest to obtain rates via that road before purchasing elsewhere. Three daily trains. Write John Y. Calahan, General Agent, 111 Adams St., Chicago.

26—26A2t

DAIRYMEN ARE DELIGHTED

to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.

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Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

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at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Adel Queens and Bees

QUEENS BY RETURN MAIL.

The standard strain of yellow-banded bees. All select-tested Queens. Each, $1.00. Ready to mail June 1. Cat. free.

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To Portland, Me., July 5th to 9th, inclusive, to Providence, R. I., July 7th to 9th, inclusive.

One Fare for the Round-Trip.

By depositing tickets with agent terminal line, an extension can be obtained until Aug. 15th, returning. Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for particulars.

27—26A2t

Sweet Clover.

As a plant for green manuring, Prof. S. M. Tracy, formerly of the Mississippi Experiment Station, says of it in Farmers' Bulletin 18, of the United States Department of Agriculture:

"As a restorative crop for yellow loam and white lime lands this plant has no superior, and for black prairie soils it has no equal. The roots are very long, penetrating the soil to a depth of three or four feet; are quite large, and by their decay at the end of the second year leaves the soil with innumerable minute holes which act as drains and loosen the soil, so that the roots of other crops can go deeper and find more abundant supplies of food, and bear drouth better."

Makeshifts—A Paper Honey-House.

It seems that F. L. Thompson has conceived the idea of a paper honey-house, and the following conversation regarding it between Mr. Smith and Mr. Thompson is given in the Progressive Bee-Keeper:

Mr. S.—Whoever heard of such a thing as a paper honey-house? And no floor!

Mr. T.—Yes, this is a makeshift; that is, at present. But when the rest of it is built this part will do just the way it is for storing empty supers, and it will not be a makeshift; because for

that purpose you don't need anything better.

Mr. S.—The idea of a paper-house for any purpose! It won't last any time.

Mr. T.—At the other places I have an 8x8 paper shanty, tarred paper without and resin-sized within (both outside of the frame-work), with a lath roof to hold the paper up, but no laths in the walls, nothing but the paper and the frame-work, and it has stood 15 months, and seems almost as good as ever. It seems likely to last two or three years without renewal; and then I would simply add another layer of tarred paper and let it stand another two or three years. The frame-work is permanent, and the cost of the paper is so trifling it hardly matters. I much prefer that kind of a makeshift to a canvas tent over a frame-work. I have had two tents two years, and they are now full of holes.

Mr. S.—But don't you punch holes in the paper every little while?

Mr. T.—Not a hole. Why should I? A tramp punched a hole in it once to steal some food, and some kind of a bird pecked two holes in the roof. I just put new panels of paper over those places.

Mr. S.—But it can't last; now, you can't convince me of that; it is unreasonable. Paper!

Mr. T.—Two small studdings of inch lumber, two inches wide, about a foot apart, between each pair of two-by-fours, make it last long enough to suit me. Confess you are just theorizing. You may think me a crank, but from my actual experience with paper I wouldn't have any other sort of a building for this purpose, unless it were a fire-proof one. It is a real money-saver. Just think of the amount of room—most of it, in fact—that is taken up for storage of empty receptacles of all sorts in a honey-house, for which matched flooring and walls, and a shingled roof, and carpenter's work generally, are wholly unnecessary. Mr. Jones, you know, has built a $300 honey-house. No doubt it is a good one; but that money is locked up for good and all. With $50 of that I could have built a house, and had money enough left for repairs on it, that would, with the occasional repairs, last me as long as I live, and then I would have had the other $250 to use in other practical and remunerative ways, or to buy books with. I tell you, this makeshift question has two sides to it. If all makeshifts are not good, some are, and it is worth while to consider what they are. Many things are to be considered in answering the question of what pays. When everything is taken into consideration, any old shanty pays Mr. Coggshall better as an extracting-room than to spend money on a special apartment. Now, I think my paper shanties are still better than his board ones, for they cost less, and are bee-tight besides.

Mr. S.—Do you mean to say that when you build the rest of this it is going to be of paper, too?

Mr. T.—Certainly. When a thing has proved good what more do you want? Of course, there ought to be a floor in the shop part, and where the comb honey is stored, to prevent dust.

Mr. S.—But dust ought to be kept out of the supers that are prepared before the season begins.

Mr. T. Those supers ought to have a newspaper between each one, anyhow, no matter where they are; and a cover above and below each pile will keep the mice out.

Mr. S.—But you want a place to store empty combs.

Mr. T.—I would have the comb-honey room a little larger than suffices for the comb honey, and store them in there. The point is, not to have any part of the house too good for what part holds. You don't put on a collar to milk your cow.

Sweet Clover as a Fertilizer.

Prof. C. E. Thorne, Director of the Ohio Experiment Station, says:

The appearance of sweet clover is a signal that the soil is out of condition. Its mission seems to be to occupy the waste-places and neglected spots of the earth, and to prepare them for the growth of other plants.

BOYS WE WANT WORKERS Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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Please mention Bee Journal when writing advertisers.

QUEENS—Try Our Stock.

Davenport, Iowa, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, John Thorming.

Months	July and August.		
Number of Queens	1	6	12
HONEY QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00
GOLDEN QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00

Select tested, $2.00. Breeders, $5.00 each.

2-frame Nucleus with Untested Queen, $2.25 each; 3-frame Nucleus with Untested Queen, $3.00 each; 6 for $2.75 each.

D. J. BLOCHER, Pearl City, Ill.
27Atf Please mention the Bee Journal.

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
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The Nickel Plate Road will sell tickets July 7, 8 and 9 at one fare for the round-trip, with stop-over at Niagara Falls and Chautauqua Lake if desired; also via New York City if preferred. For sleeping-car accommodations, call at City Ticket Office, 111 Adams St., or address John Y. Calahan, General Agent, Chicago. 23—26A2t

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Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st

Send for circular.

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State price, kind and quantity.
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over Nickel Plate Road, at one fare for the round trip, within a radius of 200 miles from starting point. Tickets on sale July 3rd and 4th, with return limit of July 7th. Three daily trains in each direction between Chicago, Cleveland, Buffalo, New York, Boston and New England points. Every facility offered for comfort of the traveling public. Individual American Club Meals, ranging in price from 35 cents to $1.00, and meals a la carte in dining-cars on Nickel Plate Road. Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for special rates to eastern points. 21—26A2t

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 18.—The market is practically over in comb honey until the new crop comes forward, so far none has appeared in this city. A little of the extracted is on sale, but it is chiefly of a low grade of amber selling at about 5 cents per pound. There is a large amount of the white extracted honey of the crop of 1901 still on sale bringing 5@6c, according to body and flavor. Beeswax sells upon arrival at 32c.
R. A. BURNETT & Co.

KANSAS CITY, June 23.—There is very little doing in honey at this time. The supply of comb on the market is not large, although there is a very good supply of extracted. We quote: Comb honey, 13@14c; extracted, 5½@6c. Beeswax, 25@30c. No new honey in market.
C. C. CLEMONS & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH Co.

ALBANY, N.Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6½c. Beeswax, good demand, 30@31c.
H. R. WRIGHT.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

NEW YORK, May 19.—There is a limited demand for comb honey and prices range as follows: Fancy white, 14c; No. 1, white, 13c; amber, 11@12c; no buckwheat or dark on the market and no more demand for any. Market on extracted remains very inactive. Plenty of supply with only fair demand. We quote: white, 5½@5¾c; light amber, 5@5¼c; southern, in barrels, 50@55c gallon. Beeswax firm at from 30@32c pound, according to quality.
HILDRETH & SEGELKEN.

CINCINNATI, June 7.—There is hardly any change in the honey market. Comb is not moving much, and whatever is left can be bought at cut rates. Water-white is selling from 14@15c. Extracted is in fair demand and finds steady sales, in barrels, 5@5½c; water-white alfalfa from 6@6½c; white clover from 6½@7c. Beeswax is coming in more freely and sells for 28c.
C. H. W. WEBER.

SAN FRANCISCO, June 11.—White comb, 10@12 cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

There is not much of any description coming forward at present or being offered for sale. To purchase freely, better figures than are warranted as quotations would have to be paid. No evidences are displayed, however, of large operators doing any noteworthy competitive bidding so far on this season's product, although the crop is not coming up to expectations in point of quantity.

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Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.
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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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Now is the time when you will be needing these. If you have not tried our Cases, send a sample order to your nearest dealer, and see what fine goods you can get.

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National Bee-Keepers' Convention at Denver, Sept. 3-5, '02

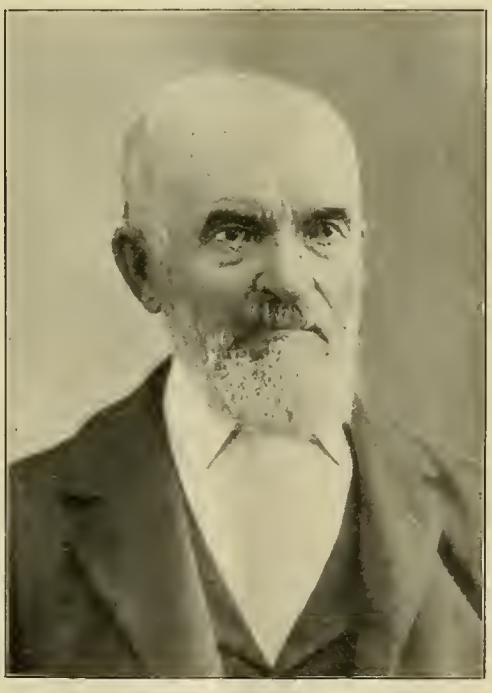
AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JULY 10, 1902.

FORTY-SECOND YEAR No. 28.

WEEKLY



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THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

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Prof. Cook's Bee-Keeper's Guide

Or, Manual of the Apiary.

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Prof. Cook has been one of the leading contributors to the American Bee Journal for a quarter of a century. He is well known to bee-keepers everywhere. He is an authority on bees and related subjects. His book has had a large sale, which now bids fair to increase greatly.

In order that every reader of the American Bee Journal, who does not already possess a copy of Prof. Cook's work, may have it, we wish to make the following

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JULY 10, 1902. No. 28.

Editorial Comments.

"**The Bee-Keeper's Guide**: or Manual of the Apiary," is the double title of Prof. A. J. Cook's text-book on bees, which has now reached its 17th edition. The present edition is improved as to its outward appearance, and still more as to its contents, much of it being written anew, thus enlarging the work to 544 pages, and bringing it up to date.

Prof. Cook writes from the standpoint of a scientist as well as a practical bee-keeper; so it happens that in one respect no text-book on bees published in this country can compare with this—that respect which relates to the natural history of the honey-bee. This occupies Part I, and covers 167 well-written pages, 81 of the 295 illustrations of the book being used to illuminate this first part.

It is true that a man might keep bees and produce honey without knowing whether a bee belongs to the class hexapoda or myriapoda—men have profitably produced honey without knowing whether the drones or the workers, or something else, laid the eggs—but the ambitious young person who enters the ranks of bee-keepers will have some desire to be intelligent upon the subject in general, and even if he has all the other text-books he will want the one hat is so full upon the natural history of his pets.

Preceding Part I is an introduction discussing who may keep bees; inducements to bee-keeping—recreation, profits, etc.

The introduction to Part II advises as to starting an apiary, the proper preliminary study, procuring first colonies. kind of hives to adopt, where to locate, etc.

Part II gives practical instruction in bee-keeping, its successive chapters treating on Hives and Sections; Position and Arrangement of the Apiary; Transferring Bees; Feeding and Feeders; Queen-Rearing; Increase of Colonies; Italianizing; Extracting; Working for Comb Honey; Handling Bees; Comb Foundation; Marketing Honey; Honey-Plants (with 55 illustrations of honey-plants in bloom); Wintering Bees; The House-Apiary and Bee-House; Evils that Confront the Apiarist; Calendar and Axioms.

The beginner of the present day is greatly blessed in being able to have a text-book the study of which before he ever handles a hive can put him on equal footing with the bee-keeper of much experience who has nothing but that experience on which to rely. Those who think a bee-paper will take the place of a text-book are making a mistake. Better have a good text-book, even if the favorite paper must be stopped for a year.

Prof. Cook's book is sent by mail for $1.20; or we mail it and the American Bee Journal for a whole year—both for only $1.75. See other offers on page 434.

Do Not Leave Sections On Too Long.—If comb honey is to bring the highest price in the market, it is of first importance that the cappings be snowy white. Generally in a crop of light honey a certain proportion of the sections will be so dark as to lower the price a cent or two on each pound. This darkening, in nine cases out of ten, if not in 9 cases out of 100, is the result of leaving the sections too long on the hives. Bees make slow work generally about finishing up the outside sections in a super, and if the super is left on until these outside sections are entirely sealed, the middle sections are pretty sure to be darkened, the darkening being caused by bits of dark material carried up from the black combs beneath. Late in the season the matter is made still worse, especially in some localities, by the deposition of bee-glue on the surface of the sections.

The remedy is not difficult in the hands of those who are willing to give the proper care. As soon as all but the outside sections are finished, and while the central sections still retain their snowy whiteness, remove the super. Sort out all sections that require further sealing, mass them in a super, or in as many supers as are necessary, and return them to the bees to be finished. These returned supers, to which has been given the name "go-backs," will probably need to be taken off before all the sections are properly finished, the unfinished ones sorted out and again returned to the bees.

Not only will this plan result in a minimum of darkened combs, but in a small number of unfinished sections.

A Bee-Keeper's Button for members of the National Association is advocated by Pres. Hutchinson, and the matter will probably come before the convention at Denver. Why not? The American Bee Journal has sent out a large number of button-badges having on them a queen-bee, and they have no doubt served in many a case to introduce to each other bee-keepers who would otherwise have remained as strangers. A National Association button or badge would serve the same purpose, with the additional advantage of distinguishing the members of the Association.

Transferring.—L. E. Kerr, in the American Bee-Keeper, says if a number of colonies are to be transferred, first drum out the bees of No. 1 and run them into a frame hive filled with combs; then take empty No. 1 into the honey-house and transfer the combs at leisure. Drum the bees out of No 2 and run them into the combs of No. 1; then transfer the combs of No. 2, and so on.

Stings for Rheumatism.—Dr. Sere de Marburg says in Prager Med. Wochenscrift that in acute cases of rheumatism not serious in character, the effect of stings is rapid, a cure being effected by a few injections of the poison. Chronic cases may require hundreds of stings, and in such cases it is not advisable to try the sting-cure unless all other means fail.

Spraying to Thin Fruit.—The following is clipped from an editorial in the Farmers' Review:

Trees sprayed at the time they are in bloom will not set as much fruit as those sprayed either before or after blooming. The pollen that is struck with any sprays of common strength is doomed practically. It may put out a feeble effort toward germination. When trees are sprayed in blossom of course the pollen in a good many flowers escapes, for the reason that all flowers do not open at the same time, and many will not have opened sufficiently to receive the spray. It has been suggested that this is a good way to thin the fruit on trees. The suggestion has been entertained by scientists, and if it is ever put into practice it may result in the finding of an easy method or thinning.

Upon second thought better counsels are sure to prevai in the office of the Farmers' Review. To say nothing of the criminality of the act in some States, well-informed horticulturists would hardly be willing to poison the honey-bees that are now considered in horticultural circles as important helpers toward a good crop of fruit. Besides, such thinning would very likely result in an undesirable quantity of deformed fruit.

Steam for Bee-Stings.—Mrs. Burns—a lady bee-keeper near Chicago—says she finds that steaming the part stung gives relief from swelling and pain. Simply hold it over the nozzle of a boiling tea-kettle, perhaps first putting a piece of cloth over it, as the issuing steam might be hotter than the sting itself. This is a simple remedy, only it involves the necessity of having the water "biling" when stung. And a bee-keeper with a hundred colonies might have to spend too much time "steaming up" his fingers or hands. We believe we would prefer to stand a few stings, and go on with the work. Still, the "steam cure" may be just the thing for some bee-keepers or bee-keeperesses.

The Weekly Budget.

Red Clover Queens Delayed.—Several times we have had to refer to the delay in rearing and mailing the Red Clover queens, orders for which we have been taking for a number of months, expecting that our breeder would be able to begin sending them about June 10. Here is what he wrote us June 30:

Friend York:—Say, I am at times almost desperate, when this cold, rainy weather goes on without ceasing. To-day and yesterday it has been very good, and I am hoping for nice weather. There has not been enough honey coming in, until the last three or four days, to keep the bees from starving. I sometimes think I will never try to rear any more queens after this season, but perhaps this season is to give us the disposition of Job—to learn to be patient.

Bees are now taking to cell-building, as the season for swarming approaches, but I can't promise to be up with orders before the last of July. It is awful, but *I can't* make weather. I have had over 200 queens lost in flying out to be fertilized. Just think of it! You can't imagine the time we are having. Clover is nearly over and no surplus. You see, the young queens go out and a cold wave and rain catches them.

Well, we must do as we would like to be done by.

Yours trustingly, ——— ———.

The delay is simply too bad, and yet our breeder of Red Clover queens can not help it. He is doing the best he can. As he well says, he can not "make weather."

We trust those who are entitled to these queens will be patient. Some have already been mailed, and the balance will be sent as rapidly as possible. A card notice will be mailed to each a day or two before sending the queens.

On to Denver.—Secretary D. W. Working, of the Colorado State Bee-Keepers' Association, is true to his name. He is indeed at it early and late, to make the next meeting of the National a great success in Denver, Sept. 3, 4 and 5. It won't be his fault if it is not the biggest bee-keepers' convention ever held in America. Just listen to these temptations to the "tenderfeet" of the East and South:

Dear Mr. York:—You may tell the readers of the American Bee Journal that those of them who attend the National convention in Colorado next September will have a chance to sit in the seats of the mighty. It is officially decided that we are to have the Hall of Representatives of the Colorado State Capitol for our Big Joint.

You are to understand that our State Capitol is worth seeing on its own account. It lacks a little of being finished, and has already cost more than two million dollars. So you may guess that it is no cheap affair. Moreover, it is surrounded by the most beautiful of lawns; and when you come to Denver the grass will be a sight to rest your eyes and make your tongue tired talking about its beauty. So, there!

You might mention the fact that the bee-keeper who has worked faithfully all summer is sure to be in debt to himself and his wife. One of the best ways to cancel such a debt is to take a vacation—go some place. Thousands of people come to Colorado merely to see the sights and have a good time—and that, too, without knowing anything about our alfalfa honey and our Bee-Keepers' Association! Your readers, knowing about these additional attractions, can be the more easily persuaded that they ought to go to Colorado at the time of the big meeting of bee-masters. Tell them to get ready.

Yours truly, D. W. Working.

Say, Mr. Working, are there any signs there of the "Keep Off the Grass" sort? If so, we have the same thing here in our Chicago parks. But we want to see Colorado just the same, and its many big bee-keepers. We believe they are the best "crop" of that State. Of course, many other things out there are also worth seeing, besides grass, and honey, and bee-keepers. Get ready for a bustin' big crowd of bee-folks.

Wisconsin Bee-Keeping compared with other Wisconsin products of 1897 to 1899:

59,855 acres bearing orchards—45 lbs. of honey for each acre.

1,412,963 bearing apple-trees—1.8 lbs. of honey for each apple-tree.

166,720 bushels apples, 1899—16 lbs. of honey for each bushel of apples.

260,549 bushels of apples, 1897—10 lbs. of honey for each bushel of apples.

89,543 bushels of strawberries—3 lbs. of honey for each bushel of strawberries.

42,829 bushels of timothy seed—1 lb. of beeswax for each bushel of seed.

85,423 bushels of clover seed, 1899—31 lbs. of honey for each bushel of seed.

1,502,444 tons of cultivated grass, 1899—1.7 lbs. of honey for each ton of grass.

510,570 acres of wheat, 1898—5.2 lbs. of honey for each acre of wheat.

1,145,351 acres of corn, 1898—2.3 lbs. honey for each acre of corn.

1,928,366 acres of oats, 1898—1.3 lbs. of honey for each acre of oats.

411,278 acres of barley, 1898—6.4 lbs. of honey for each acre of barley.

253,190 acres of potatoes, 1898—10.5 lbs. of honey for each acre of potatoes.

27,521 acres of tobacco, 1898—97 lbs. of honey for each acre of tobacco.

722,933 milch cows—6 cows for each colony of bees.

$107,170 for support of poor—25 lbs. of honey for each dollar for the poor.

$3,631 for diseased animals slaughtered—$7.26 for each dollar the State pays to protect bee-keeping.

$8,537 for diseased animals slaughtered and veterinary surgeon and help—$17 for each dollar State pays to protect bee-keeping.

$2,535 for Horticultural society—$5.07 for each dollar State pays to protect bee-keeping.

A Correction.—At the bottom of the first column of the excellent article by Mr. Elias Fox, on page 407, it should read: "Have a sufficient number of large barrels to hold two or three *thousand* pounds of honey." It was printed, "two or three pounds," which was plainly incorrect.

Contributed Articles.

No. 8.—Bee-Keeping for Women.

Methods of Caring for Old Brood-Combs.

BY EMMA M. WILSON.

It is not to be expected that the beginner will have a very great number of extra brood-combs to look after. Still, it often happens, even with a few colonies, that some die, and then the extra combs must be taken care of or they will soon be destroyed by the bee-moth. These combs are too valuable to allow any to be destroyed, consequently they must be looked after sharply, and upon the first indications of worms at work they must be attended to promptly.

I know of no better way to take care of them than to give them in charge of the bees, by putting an extra story filled with these wormy combs below the colony, where the bees are obliged to pass through them every time they go in or out. You may be sure the worms will be routed in short order, and everything kept in good shape as long as they are allowed to remain. It would be an ideal way to keep combs, only for one thing: The bees will proceed to fill these combs with honey the first thing they do after they have nicely cleaned them up, providing that honey is coming in freely, and that is not the place we want our nice white honey put; if we are working for comb honey we want it in sections instead. Now, how are we going to take care of our combs and have our honey put where we want it, too?

Worms will make slow headway in combs that are kept in a cool place, such as a cellar, and spread so that there is an inch or so space between the combs, but you must look them over frequently to see that the worms are not getting a start, for when they once get started they work very rapidly, and your nice combs are soon destroyed unless attended to.

Burning sulphur has been much used in destroying worms. It is very effectual in killing the young worms, but it takes a great deal to have any effect on the old ones, and has no effect on the eggs, so the combs must be fumigated again after the remaining eggs have hatched out. Bisulphide of carbon is better, as it kills eggs as well as worms. If, after the combs have been treated, they are shut up absolutely moth-tight they will be safe.

The past spring we had a good many extra combs to look after, and as we were pretty busy they were not looked after quite as sharply as usual, and when I came to look them over I found quite a number that needed attention.

Dr. Miller had been reading to me about the fumes of gasoline being effectual. I did not have much faith in the fumes of gasoline, but I did have a good deal of faith in the gasoline itself. So, without consulting Dr. Miller I concluded to experiment a little. I had about 50 combs that were wormy. Some of them had full-grown worms, some about half size, and some just commencing work, so I felt I had a good chance to experiment.

I took a bottle of gasoline and a small oil-can, such as is usually used about the sewing machine, as my outfit. I filled the oil-can with gasoline, and was ready for work. I inspected each comb carefully, and whenever I saw the least suspicion of worms I squirted the cells full of gasoline from the oil-can. It was very quickly and easily done, and was most effectual even on the very large worms. I treated the whole 50 combs, and was sorry afterward that I had not kept track of the time it took me, as I was surprised to see how quickly it was done.

I felt sure it was a success as far as killing the worms was concerned, but I had a little misgiving as to the effect the gasoline might have upon the combs, and as to what the bees would have to say about accepting them after they had been so treated. I am happy to say that the combs were not injured in the least by the gasoline, and the bees made no objection to accepting them, so I am inclined to think it a pretty good way to treat them. Of course, one must be very careful not to use gasoline anywhere near a fire, as it is very inflammable.

Combs that have been out over winter and thoroughly frozen will be very little bothered, if any, by the worms in this locality. Combs from hives in which colonies have died will need the closest watching, as such combs are sure to be infested.

Old, black combs which have been in use many years seem to be much preferred by the worms, probably on account of the cocoons. The presence of pollen in a comb will also increase the danger of its being riddled by the worms; while a comb that has never had any brood in it is not likely to be troubled, so I always pick out our old, black combs and put them in use first. I do this for two reasons: First, the bees prefer them every time for brood-rearing, and in the spring we are anxious to increase our bees as much as possible. I have actually known the bees to skip over a light-colored, rather new comb in the center of the brood-nest and fill an old, black comb on the other side of it with brood, thus making a break right in the center of the brood-nest. This shows how very strong is their preference for the old, black comb. The other reason is, that the worms prefer them, too, so it is desirable to get them in the care of the bees as soon as possible.

McHenry Co., Ill.

Prevention of Increase During Natural Swarming.

BY C. P. DADANT.

Permit me to reply to your inquiry on page 103, on the prevention of increase during natural swarming. The prevention of increase by returning swarms to the parent colony shortly after swarming was tried by me accidentally on a large scale a number of years ago—I believe it was in the years 1877–78. It happened in the following manner:

We had at that time made arrangements with an apiarist some 14 miles from us to furnish him hives for his swarms and take care of his bees at the same time, taking one-half of the honey and of the increase for our pay. He was to harvest the swarms as they issued. The season was exceedingly favorable, and we were crowded with work. The number of swarms was greater than we had anticipated, and our man found himself short of hives for two or three days. When I arrived at his apiary with a load of some 15 or 20 hives, he had been hiving his swarms in all sorts of boxes, nail-kegs, etc. Upon my arrival at his apiary I at once went to work to transfer, to the new hives that I had brought, all the swarms that had issued within the past two days, as they had but little comb built. But each of them did have several pieces of comb with eggs in them, in almost every instance. They were so ill-pleased with my unceremonious transfer into freshly-painted, empty hives that every swarm left those new hives and returned to the parent hive from which it had come forth a day or two previously.

Subsequently we ascertained that none of those colonies swarmed again that season. I thought that I had made a discovery, and used this method repeatedly afterwards with very frequent success, but I later found that my original

discovery had been put into practice years ago in Europe, by the box-hive bee-keepers.

In his Cours D'Apiculture, the first edition of which was published in the 50's, Hamet, the well-known champion of the box and eke hives in Paris, describes his method of returning the swarm to its parent colony. This method he uses for all secondary swarms, and he considers it necessary in order to secure strong colonies, or rather to prevent the "swarming to death" that weakens the parent colonies and furnishes worthless swarms. His method is to hive the swarm as usual in a plain box, and on the evening of the following day return this swarm to the hive from whence it issued, by shaking it in front of that hive.

His explanation of what happens is that by the end of the second day the bees have usually destroyed all queen-cells and have kept but one young queen. When the swarm is returned thus unexpectedly, the two queens come together and have a duel, in which one of them is killed. It would perhaps serve the purpose still better if the queen of the swarm that is returned was killed by the apiarist at the time when the swarm is returned.

As I said before, Hamet used this method only upon secondary swarms. It is quite likely that he had never tried it on primary swarms, for the reason that natural swarming was considered by him as the best method of increase, but my accidental trial and further experiments have convinced me that it works nearly as well on a primary swarm as on a secondary swarm.

Bear in mind, however, that this method is not infallible. The conditions which cause the bees to make preparations for swarming being still there, it is quite likely that other preparations may be made a few days later, but if the apiarist takes the pains to increase the space, giving room and additional ventilation so the bees may not find themselves too crowded—if he sees that the hive is as well sheltered as possible from the heat of the sun during the warm part of the day—this method will prove most successful. Returning the swarm on the same day will not do; the excitement is not over, and several young queens may be roaming about the hive, or the additional queen-cells may still be intact. It would be better to wait two days, if for some cause the swarm can not be returned on the second day.

This method I gave several years ago in Gleanings, and perhaps also in the American Bee Journal, and a num- of apiarists have reported favorably upon it, though it has not been uniformly successful in all instances. But there is nothing which is at all times a success, and exceptions only strengthen the rule. If in dry weather all signs fail, it is also true that in a crazy swarming-time all methods will fail to keep the bees within reasonable bounds. But this method is worthy of a trial by those who have small hives and wish to keep down the increase as much as possible.

Hancock Co., Ill.

History and Condition of Bee-Keeping in Brazil.

BY F. GREINER.

The original stock of bees now kept in Brazil was imported from Europe in 1839 by Carneiro. Of the 100 colonies he started with from Portugal, he lost 93 in transit. Later a German emigrant, whose name is not now known, brought several colonies with him to the province Rio Grande. These few colonies, it seems, were sufficient to stock up the immense forests of Brazil. A few old inhabitants are still keeping the small, native Brazilian bee with some profit, but the products are principally used for preparing medicines. On the whole, her European sister has crowded the native bee out.

The climate of Brazil is quite favorable for keeping bees, especially as to obtaining increase. Drones are found in nearly all strong colonies the whole year around. Several swarms are cast by every colony, and every prime swarm again swarms several times. This excessive swarming, however, is of no advantage to the ordinary bee-keeper, as many swarms fail to store enough honey to bridge over the rainy season, and die. The apiarist who understands his business, however, can reap bountifully.

Mr. A. Hannemann developed the method of hiving ten or more swarms in one large, giant hive, caging all queens. Thus he has immense quantities of honey stored, practically exchanging the bees for honey, for in the end he has scarcely enough bees left to make one good colony. American bee-keepers try to accomplish the same object by contraction of the brood-chamber and uniting at the close of the season.

In the mountainous part of the province Rio de Janeiro the bees begin to fly in July, and the main harvest comes in August, at the time of orange-bloom. The swarming-period has its beginning also at this time, and continues till away into October. After this month there is little honey to be gathered. Soon the rainy season commences, which often extends into January or February. The then following dry and cool spell does not hinder the bees from flying and leaving their hives, but they find so very little bloom that their stores become wonderfully reduced, and many colonies starve and die. June is the coldest month of the year, and is the trying one for the bees and their keeper.

The hives mostly used by the common run of bee-keepers consist of all sorts of miserable boxes, which often fail to give sufficient protection. They leave them scattered about wherever it happens to be. Only a very few bee-sheds may be found which provide shelter and shade, and give some comfort to the bees.

Natural enemies of the bees are numerous. Ants and moths are at all times ready to embrace every opportunity to put in their destructive work, and are a constant annoyance to the bees. The bee-keeper himself, who should be the protector, is of questionable advantage to them, and often robs the poor creatures of all their sealed stores, leaving them only the unsealed, poor honey gathered late in the season. In consequence the bees do not remain healthy, and often die with the dysentery during the wet season.

The lack of proper bee-supplies, and the general ignorance of the masses, are responsible for the fact that Brazilian honey is in no demand. The wealthier land-owners do not seem to take any interest in bee-culture. Their coffee-plantations take up their whole mind and being, and they look down upon other branches of agriculture with contempt, especially when such do not promise large returns. A change for the better in the near future is inevitable. Since the abolition of slavery (1888) many land-owners found themselves without the necessary help to work all their land, and had to dispose of the greater part of it, dividing it up into small farms. Many of these were bought up by European immigrants, who brought with them the knowledge of apiculture. Through this element the progress is expected to come. In particular will this be the case in the State of Rio de Janeiro, where conditions are most favorable for a most extensive production of coffee.

So far, then, apiculture is not in a very flourishing condition nor of great importance in Brazil, but as knowledge increases apiculture will come to the front. When better constructed hives are adopted some of the pests will be more easily held in check. The native small bee is much inclined to rob; she has the very best chance with such hives as are now in use, and which are usually full of cracks and holes. With well-made hives her European

sister need have no fear. The hives may be raised and put on legs to get the better of the ants, etc.

Die Brazilianische Bienenpflege—a bee-journal printed in the German language—will in no small degree be the means of distributing knowledge and help raise apiculture to a higher plane.

The most important nectar-secreting plants in Brazil are the orange-tree, peach-tree, tamarind, and other numerous fruit-trees; also the coffee, tea and cotton plants.

The foregoing is largely taken from the Leipziger Bienen-Zeitung. Ontario Co., N. Y.

No. 6.—Rearing Long-Lived Queens and Bees.

BY DR. E. GALLUP.

Now let us look into the question of requeening every spring with young queens from the South. Your queens are all reared on the degenerating or contrary-to-nature plan. Many of them do fairly well the first season, but their workers, being short-lived, dwindle down through the winter in this climate so that it is almost impossible to get them up numerous enough to take advantage of the orange-blossom honey, which is quite an item. The second season those forced or degenerate queens almost invariably fail, and if they are superseded their young queens are reared in a small, weak colony, and they lack vigor and prolificness. Now suppose we take said queens in the East, where they lie comparatively dormant through the winter; as soon as spring opens and they commence working, they dwindle down very rapidly with old age. There is where your spring dwindling comes in.

I will have to ask a question: Why do not the bees from a natural queen dwindle just the same? I think I would better answer that question in my own manner, and right here: Simply because the bees from the natural queen are longer-lived, and the bees from the degenerate queen are very short-lived.

The natural queen is just as prolific the second season as she was the first. She fills the cells with eggs so rapidly, and her workers are long-lived enough so that the young brood comes on more rapidly than the old bees die off, and the colony is kept up to its working strength at all times, providing they have honey enough in their hive to fall back on in an emergency, such as a cold, rainy spell, etc. A good, rightly-reared queen ought to keep up her full prolificness well into the fourth season. I have had them last until the sixth season, and I could not see any difference between the fifth and first; and when the queen was superseded in the sixth season the colony was strong and numerous, so they could rear a vigorous and perfect queen.

Now, don't you think you had better keep that old, prolific, long-lived queen that rears long-lived workers that are able and willing to work both outside and in, rather than to supersede her with one of those degenerate queens—cheap ones from anywhere?

I want to tell you that those cheap queens are dear ones as a gift, for you have to furnish a colony, and with lots of them you have to furnish another colony and queen to rear bees to keep the first colony in strength, in order to have them do anything at all. I have had them where it would take eight to keep up a colony as strong in numbers as one good queen would do.

I received a queen this spring reared last fall, and all the coaxing I can do for her she only partly occupies three Langstroth frames; while I have two queens of my own rearing, one occupying 16 frames and the other 15. I have one naturally reared, black queen that occupies 15 frames fully, and the 16th one partially, and this is her second season.

To illustrate further: Late last season a young boy that had no previous experience with bees, undertook to take a colony out of a tank-house. Not knowing how to handle them he got badly stung, but succeeded in getting the queen and a small quantity of the bees. One of my young sons made a hive for them; not knowing the value of ready-made comb he destroyed most of the combs, but I patched up part of a frame with pieces, then hived them on three frames. They filled four frames last fall. Some time about the first of April I looked them over and found that they had filled two frames outside of the division-board, and the queen had all packed with brood. Now, at this time none of my purchased queens had done anything to gain in numbers—in fact, were rather decreasing. My small, starved-out, black colony, that I obtained last fall, was building comb rapidly, and the queen was occupying the cells as fast as they were made deep enough to occupy, and they have now two supers and the hive completely full, and every comb built but three—the ones they were first hived on built by themselves—and the queen had 15 combs filled with brood. I introduced a mature cell, built at superseding time, from one of my Italian colonies, and the young Italians are now working outside (June 2). I do not expect a better queen, but I want the Italians, as they will not meddle with the drying fruit or the canneries as the blacks will. The Italians always find flowers of some kind to keep busy on.

I have never reared Italian queens for sale, as my other business prevented, and I never could see my way clear to satisfy myself, let alone purchasers. I said, years ago, in the American Bee Journal, that I did not believe that one could rear cheap queens and have them all good ones, and I have seen no reason to alter my mind yet. Although one man said in a convention that, assure him of a market for them and he would agree to rear them at 10 cents each. My strong impression is that they would be only 10-cent queens, any way you could fix it.

Here the oranges commence blossoming in March, and continue until the latter part of May, and if we have the right kind of queens and weather we get a good quality and quantity of honey.

I said, years ago, that upon the queen nearly everything depends in bee-keeping, and I have not yet changed that opinion. Orange Co., Calif.

Convention Proceedings.

Affairs and Interests of New York Bee-Keepers.

Read at the meeting of the New York State Association of Bee-Keepers' Societies, held at Geneva, N. Y., in February, 1902.

BY PRES. W. F. MARKS.

Members of the New York State Association of Bee-Keepers' Societies:—

It is my duty and privilege to address you again on matters pertaining to the affairs and interests of our organization. I shall aim to be brief.

This meeting is, to all intents and purposes, a congress of bee-keepers. You come here by authority and direction of your local societies, and represent to the best of your ability their wishes and desires. Your coming is the result of organization—organization for a purpose, an object, many purposes and many objects. There are so many problems for us to solve, and solve rightly, that it will require your undivided attention and thought.

Objects to be accomplished, and methods to be employed, toward increasing the usefulness and efficiency of our organization, is a problem you must all help solve with a view to the future; and in order to encourage thought and study on this subject I would suggest that it be one of the chief subjects for every convention. It is a subject that requires thought and study, and I trust you will give it such.

It is my opinion that the time for discussions at these conventions should mostly be devoted to questions pertaining to the upholding and advancement of our commercial interests; and questions pertaining to the work or management of the apiary should be left for the institutes.

I announce with pleasure progress in organization in this State. Since our last meeting, Monroe, Oswego, and Onondaga Counties have organized auxiliary societies, and bee-keepers in other counties have signified their intention of doing likewise.

It has been the aim of this Association to deserve the respect not only of the bee-keepers in the State and out, but of all classes and of every vocation. That you have achieved such respect is no more a source of gratification than the fact that you may deserve it. It is not my intention to boast of what, as an organization, you have accomplished, but I mention these facts as

"Footprints, that, perhaps another,
Sailing o'er life's solemn main,
A forlorn and shipwrecked brother,
Seeing, shall take heart again."

It is not necessary for me to dwell upon the results of experiments conducted by the Experiment Station in 1900, as they were given by Prof. Beach and Prof. Lowe at our last meeting, and are a matter of record. Prof. Lowe, the Station Entomologist, is on the program, and will give you an account of his experiments that are of interest to bee-keepers, and which were conducted last season.

Article II of our Constitution fixes the time and place of the annual meeting of this Association. Present or future conditions may make it desirable to amend said article, so we can meet at some other time and place. It has been suggested that we meet at the same place the day following the State Fruit-Growers' convention. This would enable those who wanted to attend both conventions a chance to do so without additional traveling expenses. It would give all the benefit of reduced railroad rates. It would be a mutual benefit to members of both Associations; and the secretary of the Fruit-Growers' Association assures me that in arranging for reduced railroad rates he can look out for both associations as easily as for one. I would respectfully call your attention to the matter.

The premiums offered by the State Fair Commission on products of the apiary are not equitable or just. A committee should be named by this Association to confer with the State Fair Commission, and insist that justice be done our pursuit in this matter; or such other steps taken to secure the desired result as you may deem advisable.

At your last annual meeting you recommended that the enforcement of that portion of the pure-food law relating to adulterated honey be transferred to the Department of Agriculture. As chairman of your legislative committee I took immediate steps to comply with your wishes. The attention of the Commissioner of Agriculture was called to the matter, and I was assured that a bill would be introduced, which, in connection with other matters, would accomplish the desired result. Such a bill was introduced, Senate Bill No. 196, familiar to most of you as "Senator Ambler's Pure-Food Bill;" but owing to the determined opposition of the baking powder manufacturers it was finally defeated.

On investigation I find there is a question if our present law on adulteration could be properly enforced—in fact, I am convinced it is not what we want. There is much complaint of adulteration, and you are urged to take steps to prevent it if possible. The recent advance in the price of honey will have a tendency to increase the practice. Samples analyzed by the Connecticut Experiment Station, in 1898 and 1896, are suggestive; here are the figures: Out of 37 samples analyzed in 1898, 5 were pure, 22 doubtful, and 10 certainly adulterated; in 1896, out of 48 samples analyzed, but 7 were pure, the balance either adulterated or doubtful; and several of these samples were manufactured in this State. We can not afford to wait longer for a general pure-food bill.

All things considered, after taking counsel and advice of chemists and others of experience in this work, I would recommend that we secure, if possible, a new law relative to the adulteration, misbranding, imitation of and deception in the sale of liquid or extracted honey. As chairman of your legislative committee, I have prepared a bill for your consideration, which, if it meets your approval and becomes a law, is intended to prevent misbranding and adulteration; such bill is not yet before you, but with your permission I will depart long enough from the regular order to explain some of its provisions, with a brief explanation of the whys and wherefores; so you will more readily understand them when it is reported.

It is intended strictly as a honey-producers' and honey-consumers' bill; it is intended to affect no other product as long as such product is not branded with the word "honey." Briefly stated, it does not prohibit the mixing of other ingredients with honey; but it does prohibit the branding of such mixture as "honey," and the branding of any product "honey" which is not pure honey. If the glucose-mixers want to raise the grade of their product by the addition of honey, I do not believe we can prevent them doing so if they sell it for just what it is, and I know of no reason why we should want to prevent them or anybody using honey; but we can and should prevent their branding their mixture "honey," or the branding of any product honey which is not pure honey.

In order that my position may not be misunderstood, let us look at the question from another standpoint and say that glucose is adulterated with honey. Now, I do not believe such adulteration would hurt us, or anybody, if such product could not be sold for "honey." "Honey" is the natural product of the honey-bee and the trade-mark of the honey-producer. I believe the courts will sustain that position without exception, and we should zealously maintain it against all comers. Perhaps further explanation at this time will be improper. I trust the matter will receive your earnest consideration at the proper time. If we have a law it should be *honey-tight*, enacted with a view of being enforced; there should be no holes in it, and the bill must be carefully drawn.

In conclusion, let me urge you to combat the idea that honey is a luxury. We know it to be a valuable saccharine food, and why should we not maintain such fact at every opportunity? Encourage home consumption; no person is worthy of the name of honey-producer, no matter how extensively he is engaged, who will not do all in his power to increase consumption at home.

Now that the price of honey has advanced, try to maintain prices. There is no reason why the producer should not receive good returns for his time and money invested.

A word in regard to the series of Bee-Keepers' Institutes may not be out of place: A speaker is furnished for these institutes by the Department of Agriculture, through its Bureau of Farmers' Institutes; dates, places, and speakers for the same must be arranged for some time in

advance of the meetings, and approved by the Director. If you do not ask for an institute until the series has been arranged and the dates fixed you will be disappointed; much of this work should be done to-day. Your thanks are due the Department for favors received.

It is important, and a source of gratification to the bee-keepers and the several societies, to be largely represented at this convention; but it is not necessary that we should be noted for the numerical size of our conventions; but rather by the value to our pursuit of the work accomplished. Our time is limited; there are live issues to be discussed; be thorough, but brief and pointed in your discussion.

Thanking you for your attention and for the loyal support and aid you have rendered, I await the pleasure of the convention.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

COMB HONEY AND SWARMING.

Yes, sir, no doubt of it; a living blanket of bees on top of the sections and all round, is one of the very best incentives toward getting them finished promptly and in the best style of bee art.

To deplete the old hive of bees after swarming, and to use it finally to hive a swarm in, is a method of restraining increase that commends itself highly. Still you must remember that it might play capers with *you*, in your yard, providing you have never used it before. Article of G. W. Stephenson, page 343.

PERCENT OF WATER IN HONEY—FLAVOR AND COLOR FROM POLLEN.

If we can not know *exactly* how much water there is in honey, here is an approximation stake to tie to which is tolerable. Prof. Eaton tells us on page 345 that 23 percent should be the high-water mark. Above that it's honey and water rather than honey.

Wonder if he intended to say that *flavor* and color of honey depend in part upon the pollen. If so our goat, methinks, ought to give him another degree of bee-masonry.

THE SCIENTISTS AND GLUCOSE.

It worries me a little when I hear the scientists tell what the different sweets are that compose honey. These pronouncements, of which we have had quite a number, sound very different the one from the other. How much of this disagreement is real disagreement, and how much a different use of language merely, a layman can not tell very well. It's plain that scientists, when they get criss-cross at each other, rather take pains to have their language disagree. I am not accusing Prof. Eaton of this, but just honestly and squarely quoting him below; and those "unreliable glasses" of mine can see "just as easy" that none of our learned and respected teachers know quite as much about the composition of honey as they let on:

"Glucose, in a chemical sense, signifies a group of sugars having common characteristics, and includes almost two dozen varieties, the most common of which are dextrose and levulose. Honey, therefore, contains glucoses, but no 'glucose.' 'Glucose' also contains glucoses, dextrose being common to both products." Page 345.

PROPER TEMPERAURE FOR HANDLING BROOD.

As to the temperature at which brood should or should not be taken out of the hive, the answer on page 347 is conservative, and to that extent good. I will remark, however, that for 20 odd years I have been in the regular habit of going through my hives whenever I wanted to (and that has been to a total of a great many cases), at temperatures very much below what the authorities set. Instead of keeping my minimum at 65 degrees it would be somewhere about 25 degrees, I reckon. No wind, you understand; and a protecting case made on purpose to put the frames into as soon as taken from the hive; the exposed side of the case to hold a broodless comb; and the quilt laid loosely on the top of all if things are severe. I may have done much harm by this conduct, but I have yet to run across the first evidence of it. Tender brood lies at the bottom, or at least half way to the bottom, of a narrow, warm cell, which takes quite a while to get cold. And my idea of how matters work in a calm atmosphere is that a warm, empty comb *holds* its inclosed air—somewhat as a floating thistle-down holds its inclosed globe of warm air. The cooling of the inner walls of the hive is to be regretted, in case you take everything out; but then the bees go back in a stirred-up condition, like a stirred-up fire, and soon warm things up again.

A HARD SPRING FOR BEES.

Worst spring for bees in 33 years—Doolittle, Onondaga Co., N. Y.; May 15. Bring it down to June 19, and say worst spring I remember in my locality for lack of nectar in the flowers. Not so very exceptionally cold, or dry, or wet, or stormy, but just barren. Perhaps the number of days of rather cold weather has been exceptional. But in my garden one or more cucumber plants, planted May 3, and coming up with reasonable promptness, still live, having had no protection whatever. Page 348.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Superseding or Swarming-Out?—When to Put on Supers.

Why so much superseding of last year's reared queens? On opening the hives I find two capped queen-cells, frames well filled with brood, equal to the work of a well-regulated queen, no drone-brood. The bees will ball the queen, and I find them on the entrance-board. I have not been tampering with them or bothering them. All are clipped. I would think nothing of it if they were old queens.

I had hives booming with bees, and saw the first clover bloom May 21. I put on supers June 10, and to-day there is scarcely anything being done in them. The reason is the cold and wet weather. I said I would wait before putting them on, because I thought the weather would continue cold, and it has, and will remain cool throughout the season, as it did in 1882.

There is very little swarming, what swarms there are issue when young bees are out for a flight. I get about enough of the returned ones to make a coporal's guard. The swarm will settle and go in with others; I can't blanket all the entrances.

I find the bee-men have troubles as well as the fisherman.

I had my stakes set for 100 colonies, but have concluded that a whole lot less will make me plenty of trouble.

It is enough to make one hot under the collar to have the natives swarm in to buy honey and have none to supply them with, and to hear them say, "What, all of these bees and no honey! I would get rid of them." IOWA.

ANSWER.—I've looked over my assortment of answers carefully to find one to fit your question as to the loss of queens, and can't find a single one to fit the case except that one I have to use so often—"I don't know." I doubt

its being supersedure, for I doubt there ever being a case of intentional supersedure without the rearing of drones. It looks more like swarming-out. Sometimes bees swarm out with plenty of honey in the hive, and with plenty of brood, as in a case of spring dwindling, and I've never seen any satisfactory explanation for it except the possible one that there is not a sufficient force of bees to care properly for the brood. Sometimes bees swarm out because they run short of stores. In either case, with a clipped queen, the bees would be likely to return to the hive, and the queen might be lost. If conditions are the same with you as here, it would be nothing strange for bees to swarm out because short of stores.

You are entirely right in thinking there was no necessity for putting on supers this year for a long time after the first white clover bloom. I saw the first clover bloom this year May 20, and there seems no likelihood that there will be any need to put on supers until more than a year after that date. The rule, however, to put on supers at first sight of clover bloom is a good one. If there is no nectar in the clover, of course it doesn't count. Neither is it necessary to put on supers so soon if the brood-chamber is entirely destitute of stores, for the bees will first see that the brood-chamber is filled before storing in supers.

Folding Sections—Winter Packing in Alabama.

1. What do you make or fold your sections with?
2. Do you *think* you would use any packing on or around bees in this latitude? or just see that they had plenty of stores and the upper story off? The thermometer only once in five or ten years goes below zero, and then not over 1 to 5 degrees. ALABAMA.

ANSWERS.—1. I have been using the Hubbard section-press for a number of years.

2. I don't think I would use any packing for winter in Alabama, but before being too positive about it I should want to inquire of you and others in your locality as to your previous experience. If you have had success without packing, then packing would be hardly worth the while. And yet, if you have not had entire success without packing, that by no means proves that the lack of packing is to blame for your want of success. In that case, I should want to try packing on a small scale, and see whether the packed colonies did any better than others.

Bees Not Storing Much Honey.

I have 12 colonies of bees, and they have not stored any honey in the sections this season so far (June 25.) Half are pure Italians, and the other half are mixed Italians. I have the 10-frame hive. I have a little brown bee and the mixed Italian, and only two colonies that have stored any honey in the sections. Last season did not seem very good for bees, and also this season. It is hard to understand why they don't do better. I am located near some good farms within less than 300 or 400 yards from my place. I have made 10 hives of 10-frame style. I am expecting next season to do better. If I do not, I will have to move to some other locality.

If you can give me any information that will help me about the queen-bees, I will appreciate it very much. It may be the bees, the reason that I do not get much honey. GEORGIA.

ANSWER.—It is hard for any one to make a guess as to why your bees store so little. It is possible that the bees are not at all to blame, the trouble being that there is not sufficient nectar for them to gather. It is also possible that the bees are to blame, and that if you had a different strain you might have more honey. This is perhaps to what you refer when you ask for information about queens. All that is necessary is to get a queen of some reputable queen-breeder, such as advertise in this journal, or get one of the queens offered as premiums, and then see whether the new stock does any better than the old. But do not depend upon the first trial with a queen obtained through the mails. A queen of the very best kind may be so injured in the mails that she will not do as good work as inferior stock, while if young queens be reared from her they may show the very best results If you mean something else by "help about queen-bees," please be a little less general and it will be a pleasure to answer your questions.

Inducing Bees to Build Comb.

I want to know what will induce bees to build comb. With us it is hard to get any comb built after July 10. Could I induce bees to build comb in brood-frames where foundation starters are used, say 3 or 4 inches wide? Would feeding do it? We have very little trouble in wintering bees, if we can get the frames full of comb. VIRGINIA.

ANSWER.—Bees will build comb only when they need more. Yes, feeding will make them build comb, if you feed more than they have empty cells for. The reason they do not build comb after the 10th of July, is probably because after that time they do not gather enough to need any more room to deposit what they gather.

Colony Refusing to Accept a Queen.

I have a colony that refuses to accept a queen, though I have tried twice, and lost the queen in each case. What would you do with the colony? Shall I distribute it around among the other colonies, or unite it with a weaker one that has a queen? If the latter, how shall I do it? ILLINOIS.

ANSWER.—Either plan will be good. If you have several weak colonies, divide it among them; if only one, unite with that one. First give to the weak colony a single frame of brood and bees from the queenless colony; next day give two more frames, and the following day the remainder.

Inducing Early Swarming.

1. What will induce early swarming?
2. How soon will bees swarm after being hatched? IOWA.

ANSWERS.—1. Do everything you can to favor building up the colony early; keep it as warm as possible; give frames of brood from other colonies; keep off surplus arrangements so it will be crowded for room; and, if there is still vacant room in the hive, either feed to fill empty cells, or give dummies in place of empty combs.

2. Perhaps the same day they are hatched if a swarm happens to be issuing at that time. When a swarm issues, bees of all ages go with the swarm, and bees of all ages remain with the old colony.

The Buffalo Convention Report is issued in pamphlet form, size 6x8½ inches, 80 pages and cover. Besides a full report of the proceedings of the 32d convention of the National Bee-Keepers' Association, held in Buffalo, N. Y., Sept. 10, 11 and 12, 1901, it contains fine half-tone portraits of all the officers and directors of the Association; also the Constitution, a list of the membership up to the end of 1901, and the two latest bee-songs—"The Hum of the Bees in the Apple-Tree Bloom" and "Buckwheat Cakes and Honey." We believe it is the finest ever gotten out for the Association. Of course, all members of the Association receive a copy free, but there are thousands of our readers who are not yet members, but who should have this valuable Report. Better send for a copy, if you have not yet received one. Price, postpaid, 25 cents, or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal. Better order soon, before all are gone.

GENERAL ITEMS

Bees in Good Shape.

I have 60 colonies of bees all in good shape, up to date. I have had only 4 swarms, and do not want any more. I run for comb honey, and not for swarms. They are doing well on white clover, and I never saw as good a supply before. E. B. HUFFMAN.
Winona Co., Minn., June 25.

Most Unfavorable Season.

The season has been most unfavorable so far. It is aggravating to see the profusion of white clover bloom everywhere and no chance for the bees to get out and gather the nectar which is present in large quantities, judging from what our bees do whenever there are a few moments when it is possible for them to be out. There have been not more than 4 days in all this month when it was warm enough and dry enough for bees to work. I have not been able to do much in the line of queen-breeding because I did not consider it safe to open hives.

Basswood bloom has been ruined by frost, and I feel afraid that buckwheat will be all we may now depend on for honey. F. GREINER.
Ontario Co., N. Y., June 28.

Hot Weather Needed.

I never saw so much white clover, but the weather is too cold for bees to store any nectar. We must have hot weather soon, or the honey crop will be very light. EUGENE MANNING.
Tompkins Co., N. Y., June 30.

Dogwood and Bitterweed Honey.

I thought, as did Mr. Parsons, that I'd tell you about dogwood and bitterweed, but as he has done it I'll just go a little farther and say that dogwood gives considerable honey, but it, too, is slightly bitter, enough so that it is objectionable in the section honey, but as it blooms a *little* before poplar it rarely gets into the sections. If I ran for extracted honey I fancy it would bother a good deal. If Mr. Parsons had written all he said about the *bitter* part of bitterweed honey in *italics*, and closed with a big *BITTER*, he'd have hit it. Quinine is a sweet morsel by the side of bitterweed honey. Fortunately, it grows only in cities or small towns, and the farmer bee-keeper is immune from it. R. V. GOSS.
Walker Co., Ala.

Late Swarming—Pickpocketed.

I can report my bees strong in numbers, but late in swarming and storing honey in the supers. White clover blossoms were in evidence the first day of June, and at this date are plentiful, but the cool, cloudy and damp weather which has prevailed the most of the month has prevented the bees gathering much honey. But when a good day does occasionally appear, I am encouraged to see them going for the white

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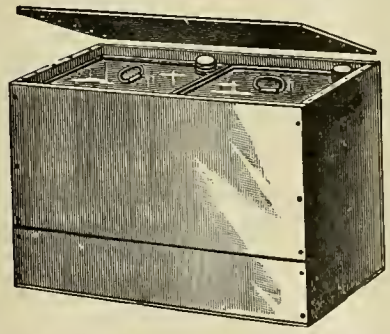

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Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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clover and alsike blossoms, proving there is nectar in both. I am quite anxious for a good honey crop this season, to make up for a loss I met with the 13th of this month. My wife and I went on a short excursion, by train, and I "fell among thieves" for the first time in my life. In the rush of getting off the train, pickpockets got my pocketbook containing $40.00 and over—enough to have paid my fare to the convention at Denver next September; but "misery loves company"—"there were others," the thieves getting about $300 on the different trains to and from the place. A lone dollar-bill that I was keeping for an emergency went with the rest. I am glad I have paid so far in advance for the American Bee Journal.

A. F. FOOTE.

Mitchell Co., Iowa, June 23.

Bees on Verge of Starving.

The outlook for honey is very poor at present. The clover season is almost gone, and the bees are on the verge of starving. It is too cold and wet. Basswood trees are full of buds, and will be out in 8 or 10 days. I hope for better weather then.

C. A. HATCH.

Richland Co., Wis., June 27.

Short Honey Crop.

The honey crop is short in this part of the country—about half. Cause: cold, wet spring and hot, dry summer. Dry winds from the North are now parching up everything.

H. D. MURRY.

Rankin Co., Miss., June 24.

Worst Year for Bees.

This is the worst year for bees that I have ever known, and I have kept bees for 25 years. No honey, and very little brood. This is the worst week of the summer; no honey from white clover. Bees will starve in a few days unless there is a change in the weather soon. We may get some honey from sweet clover. Will it pay to feed bees at this season of the year? E. L. GLOVER.

La Salle Co., Ill., June 27.

[Certainly; it will pay to feed bees whenever they need it.—EDITOR.]

Do Bees Hear?

This is a question that has been ventilated by the most profound bee-keepers in America. From my observations I believe that everything that has life and moves on top of the earth has the senses of hearing and seeing, for the protection of themselves. It may be that the mole and angle-worm, and a few other animals and worms, depend upon concussion of the earth to alarm them. I have my reasons for believing that bees hear, viz:

When bees locate a home only about one-fourth of the swarm leaves as scouts in search of a home. These scouts, after locating the home, will return to the swarm, and by a peculiar noise notify them that a home is ready, the carpets are down, and all the cracks are glued with propolis. Now, the swarm comes off the bush, or where they are hanging, and takes a bee-line to their future home. One-fourth of

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makes your wire fence sag, it isn't the PAGE. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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the swarm leads three-fourths. By what means do they do this without hearing the scouts that are leading the main swarm? They don't follow them by sight, for the bees all look alike, unless the scouts were painted red.

If you have hunted wild bees and put a little honey on a stump in the forest, and burned old comb, soon a bee will alight on the honey; as soon as she is full she will make a few circles and leave for home. In a few minutes she returns with a sister bee. Now, did she follow her by sight through the thick timber or the noise made by the vibrations of her wings?

When it thunders, and the rain is 4 miles away, the bees come pouring in the hives by thousands long before they would have time to fly 4 miles out of the rain.

Does the queen pipe for fun, or can she hear, and not hear her children?

GEORGE POINDEXTER.

Dewitt Co., Ill., June 19.

Late Season—Cold and Wet.

The season is late here; too cold and wet. No swarming. White clover is in abundance, also blue thistle. It seems now as if we would have a poor season. The bees came through the winter in good shape, but have built up very slowly on account of the cold weather. F. J. WILSON.

Washington Co., N.Y., June 23.

Worst Season Ever Known.

This is positively the worst season ever known here for bees. It rains nearly every day, with very little sunshine, and a temperature that averages more like October than June. No honey, very few swarms, and bees nearly starving, or living from "hand to mouth," they securing almost enough for their wants the few sunshiny hours that come between our floods of rain. Corn, which usually stands a foot high at this time of year, does not average 3 inches, and looks so sick that farmers are beginning to think we will get no corn. I wish the Texas roasted and drouth-stricken people could have a part of the cool and wet in exchange for some of theirs.

G. M. DOOLITTLE.

Onondaga Co., N. Y., June 27.

He Would Sulphur the Bees.

Who has the heart to kill off the little busy bees? Some people who have 50, 60, or more, colonies of bees, and do not want to increase, will put several swarms in a big box and they store a whole lot of nice chunk honey, then when fall comes they kill them

ITALIAN

BEES AND QUEENS!

We have a strain of bees bred specially for honey-gathering and longevity. We feel confident of giving satisfaction.

PRICES:
for the remainder of this season:

1 Untested Queen	$ .60
1 Tested Queen	.80
1 Select Tested Queen	1.00
1 Breeding Queen	1.50
1-Comb Nucleus, no queen	1.00

J. L. STRONG,

204 East Logan St., CLARINDA, IOWA.

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Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

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DAIRYMEN ARE DELIGHTED to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars. DRAPER PUBLISHING CO., Chicago, Ills.

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Adel Queens and Bees

QUEENS BY RETURN MAIL.

The standard strain of yellow-banded bees. All select-tested Queens. Each, $1.00. Ready to mail June 1. Cat. free.

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26Atf WENHAM, MASS.

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24 years the best. Send for Circular.

25Atf T. F. BINGHAM, Farwell, Mich.

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"What Happened to Ted"

BY ISABELLE HORTON.

This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address,

ISABELLE HORTON,

227 EAST OHIO STREET, CHICAGO, ILL.

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GINSENG Grows anywhere: Now is the time to order. New price-list just out with right prices. Its FREE. Write to-day.

EMPIRE STATE GINSENG CO.

MARCELLUS, N. Y.

Famous Italian Queens!

BUCKEYE STRAIN OF 3-BANDED LONG-TONGUES are wonderful honey-gatherers. One customer bought 10 dozen. Just think of it! (He bought a few last season as a trial.)

MUTH'S STRAIN GOLDEN ITALIANS.

As fine as money can buy. Either of the above by return mail, 75c each; 6 for $4.00. Selected tested, best money can buy, $1.50.

FULL LINE OF THE FINEST DOVETAIL HIVES AND SUPPLIES. Send for Catalog. THE FRED W. MUTH CO.,

Front and Walnut Sts., CINCINNATI, OHIO.

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Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select droues. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st

Send for circular.

JOHN M. DAVIS,

14A26t SPRING HILL, TENN.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,

144 & 146 Erie Street. CHICAGO, ILL.

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DRAPER PUBLISHING CO., Chicago, Ills.

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, JOHN THOEMING.

MONTHS	July and August.		
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00
GOLDEN QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00

Select tested, $2.00. Breeders, $5.00 each.

2-frame Nucleus with Untested Queen, $2.25 each; 3-frame Nucleus with Untested Queen, $3.00 each; 6 for $2.75 each.

D. J. BLOCHER, Pearl City, Ill.

27A1f Please mention the Bee Journal

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

33A1f Please mention the Bee Journal.

all off with sulphur. I would not do that; I would unite them with some weak colonies, which bee-men generally have, that is, bee-men who do not make a business of looking after their colonies. They just put them any old place, slap on the sections, and then let them go at that. Now, I always give my bees the best care. You cannot make money in stock if you do not take care of them, and it is the same with bees.

I know of a bee-man that put 3 big swarms in an old salt-barrel, and got a barrel of honey; he killed the bees and took the honey that the bees worked so hard to store away. He could have put them in other hives and kept them for another year.

I am a reader of the "Old Reliable," and could not do much without it. I enjoy the pictures of the apiaries very much; they are up-to-date.

G. B. WILLIAMSON.

Jones Co., Iowa.

Repairing Hive-Covers.

Tell "Missouri," on page 409, first to paint the bad place in his old cover thick with white lead, then stretch on a piece of muslin, and paint over it well. I mend cracked covers that way, and it is very successful.

Lafayette Co., Wis. H. LATHROP.

Rates to Denver—A "Bee-Bonnet."

I have been interested in the meeting of the National Bee-Keepers' Association at Denver. The Editor gave the rate from Chicago last week, but that does not do us much good down here. Can you give rates from Kansas City, Mo., Wichita and Hutchinson, Kans.? Also, are women bee-keepers eligible to membership in the Association?

I will enclose a snap-shot of my apiary. The picture does not show all the colonies. I had been working among the hives and did not have the yard fixed up for a picture. The lady that took the picture stopped on her way home from a picnic, and it was just about sundown, the wind was blowing quite hard.

I have some fine Italians which I purchased last year. They are the best workers in the yard.

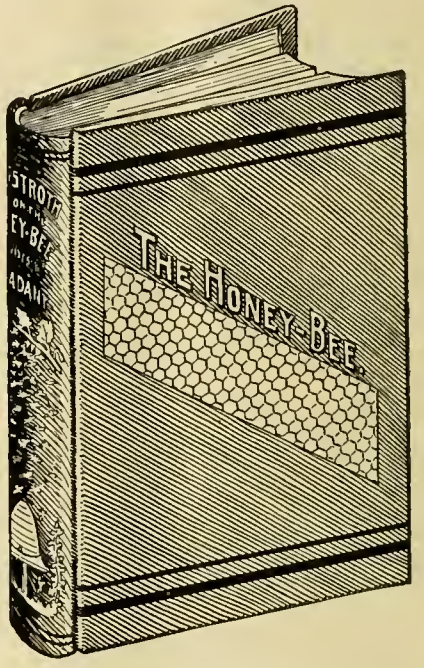
I have a little different kind of a bee-bonnet from any I have seen. I took a wire hat-frame and covered it with muslin; around the edge of the hat I sewed screen-wire, and fastened it together at the back; to the lower edge I sewed muslin and ran a draw-string in so as to draw it tight around my waist. I cut armholes and sewed sleeves in; I made them large, and put a draw-string at the wrists. When I get my gloves on, the bees may get as mad as they please, but they can't get at me. I have strings sewed to the crown of the hat which I tie under my chin, and with the hat-pin stuck through into my hair I have it pretty solid. To keep it from hanging loose in front, I pin the muslin part to my dress with a safety-pin. I can see so much better through the wire than through any kind of a veil, as a veil wavers and blows about.

The last month has been very hard on the bees; we have had so much rain. There have been only 6 good working days. The colonies are quite

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly ex-



plained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.

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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

Please mention Bee Journal when writing.

strong, and were doing fine before we had so much rain. The whole country has been covered with white and red clover.

My bees have not shown any disposition to swarm; I wanted them to swarm this year, as last year I did all I could to keep them from swarming.

This is a fine crop year; everything looks well. Fruit will not be as plentiful as last year.

Miss B. L. HACKWORTH.

St. Clare Co., Mo., June 20.

[We regret to say that the picture of your apiary, Miss H., is not clear enough to make a good engraving. We should be pleased to have you try again, and if you get a good picture send it on and we will use it.

Of course, ladies are eligible to membership in the National Bee-Keepers' Association, on the same basis as the men—$1.00 a year dues.

As to the rates to Denver from the places you mention, you should be able to find out by enquiring at your nearest railroad station. We do not know what the rates are from everywhere, even if all roads do lead to Denver!—EDITOR.]

Low Round Trip Rates, via Union Pacific, from Missouri River,

$15.00 To Denver, Colorado Springs, and Pueblo, Colo., July 1 to 13, inclusive, Aug. 1 to 14, 23 to 24, and 30 to 31, inclusive.

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27Atf OMAHA, NEB.

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Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 1902 edition—19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

A B C of Bee-Culture, by A. I. Root.—A cyclopedia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 60 cents.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, bound in cloth. Price, in cloth, 50 cents; in paper, 30 cents.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cents.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Bienen-Kultur, by Thomas G. Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00.

Dr. Howard's Book on Foul-Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. Price, 30 cents.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Italian Queens —bred for business, by the best methods, and from the best honey-gathering stock. My bees are free from disease, and are hustlers. No small or inferior queens sent out. Untested, 75c; tested, $1.
28A4t D. E. ANDREWS, Bloomington, Ind.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 18.—The market is practically over in comb honey until the new crop comes forward, so far none has appeared in this city. A little of the extracted is on sale, but it is chiefly of a low grade of amber selling at about 5 cents per pound. There is a large amount of the white extracted honey of the crop of 1901 still on sale bringing 5@6c, according to body and flavor. Beeswax sells upon arrival at 32c.
R. A. BURNETT & Co.

KANSAS CITY, June 23.—There is very little doing in honey at this time. The supply of comb on the market is not large, although there is a very good supply of extracted. We quote: Comb honey, 13@14c; extracted, 5½@6c. Beeswax, 25@30c. No new honey in market.
C. C. CLEMONS & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6¼c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.
THE FRED W. MUTH Co.

ALBANY, N.Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6½c. Beeswax, good demand, 30@31c.
H. R. WRIGHT.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

NEW YORK, May 19.—There is a limited demand for comb honey and prices range as follows: Fancy white, 14c; No. 1, white, 13c; amber, 11@12c; no buckwheat or dark on the market and no more demand for any. Market on extracted remains very inactive. Plenty of supply with only fair demand. We quote: white, 5½@5¾c; light amber, 5@5¼c; southern, in barrels, 50@55c gallon. Beeswax firm at from 30@32c pound, according to quality.
HILDRETH & SEGELKEN.

CINCINNATI, June 7.—There is hardly any change in the honey market. Comb is not moving much, and whatever is left can be bought at cut rates. Water-white is selling from 14@15c. Extracted is in fair demand and finds steady sales, in barrels, 5@5½c; water-white alfalfa from 6@6½c; white clover from 6½@7c. Beeswax is coming in more freely and sells for 28c.
C. H. W. WEBER.

SAN FRANCISCO, June 25.—White comb, 10@12 cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

While the market presents a firm undertone, owing to the season's yield proving much lighter than was generally anticipated, the inquiry is not active at full current rates. Buyers are slow realizing that they are not going to be favored this summer with heavy offerings.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.
21Atf Mention the American Bee Journal.

Prize-Winning Stock

Daughters of Moore's famous long-tongued red clover Italian Queen, which won the $25.00 prize offered by The A. I. Root Co. for the longest-tongued bees; and also daughters of other choice long-tongued red-clover breeders whose bees "just roll in the honey," as Mr. Henry Schmidt, of Hutto, Tex., puts it, now ready to go by return mail. Untested Queens, 75c each: six, $4.00; dozen, $7.50. Select untested, $1.00 each; six, $5.00; dozen, $9.00. Safe arrival and satisfaction guaranteed. Circular free.

J. P. MOORE,
28Etf Lock Box 1, MORGAN, KY.

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Save Money by Buying
Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF
THE W. T. FALCONER MFG. CO.,
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Our goods are guaranteed of superior quality in every way.
Send for our large illustrated catalog, and copy of
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a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)
W. M. GERRISH, E. Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.
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$300,000,000.00 A YEAR
and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.
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If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.25 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

A New Bee-Keeper's Song—
"Buckwheat Cakes and Honey"
Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of
"THE HUM OF THE BEES in the APPLE-TREE BLOOM"
Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*
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Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.
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We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.
Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.
Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.
Bee-Keepers' Supplies OF ALL KINDS *****
Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.
Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.
BEESWAX wanted at all times.....
CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.
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After working overtime for many months, running everything to its fullest capacity, we have finally caught up with orders, and now can ship, with some few exceptions, by first train.
OUR SHIPPING-CASES.
Now is the time when you will be needing these. If you have not tried our Cases, send a sample order to your nearest dealer, and see what fine goods you can get.
PORTER BEE-ESCAPES.
We are the exclusive wholesale agents for these goods. There is no Escape that has ever been put on the market that can compare with it; and the fact that the Porter has driven all competitors from the field, is one of the best evidences of its merit.
THE ROOT HONEY-EXTRACTORS.
These have won a reputation for themselves. For ease of running, and for quality of workmanship throughout, we believe there is nothing on the market equal to them at any price.
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THE A. I. ROOT CO.,
MEDINA, OHIO, U. S. A.
GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL.,
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National Bee-Keepers' Convention at Denver, Sept. 3-5, '02

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JULY 17, 1902.

FORTY-SECOND YEAR
No. 29.

WEEKLY

DR. J. L. GANDY AND HOME APIARY IN RICHARDSON CO., NEB.

A STANDARD-BRED

QUEEN-BEE FREE

To Our Regular Paid-in-Advance Subscribers.

We have arranged with several of the best queen-breeders to supply us with **The Very Best Untested Italian Queens** that they can possibly rear—well worth $1.00 each. We want every one of our present regular subscribers to have at least one of these Queens. And we propose to make it easy for you to get one or more of them.

In the first place, you must be a regular subscriber to the American Bee Journal, and your own subscription **must be paid in advance.** If it is not already paid up, you can send in the necessary amount to make it so when you order one of these fine Queens.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JULY 17, 1902. No. 29.

Editorial Comments.

Bee-Growers is a term that Editor Root thinks it would be well to use so as to avoid the constant repetition of "bee-keepers." But is the frequent use of the same word objectionable if the thing itself is frequently referred to? The word "bee" is used with much greater frequency than "bee-keeper." Does our good friend of the Buckeye State object to allowing the word "bee" the monopoly of representing the thing that we speak about so often? We prefer to be a bee-keeper or honey-producer rather than a "bee-grower."

The Change in Weather throughout a large scope of country came suddenly, but there was nothing of a compromising character in the change. It was from cold to hot, sudden, distinct, unreserved. In the latitude of Chicago the feeding of bees was the order of the day throughout the month of June with those who were wide enough awake to be aware how stores had disappeared. Then just about the same day with the opening of linden came a welcome rise in the thermometer. No matter how much clover was in bloom, the bees got nothing from it during the dreadfully chilly time, and they will be more or less uncertain now whether bees are getting honey from it, and will wait with no little interest to find out after the cessation of linden bloom. Whoever may grumble about the hot weather, bee-keepers will hardly do so.

Honey Crop Prospects in California.—A leading bee-keeper of San Diego County sends us the following, taken from the San Diego Weekly Union, dated June 19:

SAN DIEGO COUNTY HONEY PROSPECTS.

The latest estimate of the honey crop in this county by those who make a business of dealing in it, is that there will be about 20 car-loads this season. The average yield is about 75 car-loads, so that there will be a quarter crop this year, if the estimate is correct. It is very difficult, however, to forecast just how much honey the bees will gather. This will depend to a considerable extent on the life of the plants and flowers from which the honey is taken.

Some new honey is already being brought to market, but the quantity is very small. One commission man said yesterday that he was not buying new honey, and when asked for the reason, he said there was none to buy. Between 4 and 4½ cents a pound is being paid for the new honey. The bee-men themselves think that the estimate of 20 car-loads for this year is a little high. There have been seasons when this county produced more than 100 car-loads. The other day Simon Levi shipped 48,000 pounds of last year's crop to eastern points. This honey had been stored since last season.

JULIAN BEE-MEN ORGANIZE.

The honey-producers of the Julian section have organized themselves into a local association for their mutual protection, and for the purpose of marketing their honey in car-load lots. F. A. DeLuca was appointed sales agent, and John Stevens honey inspector, to grade the honey and assist in making the sales.

The motion was carried that all honey-producers of Julian and vicinity not present at the meeting, who wish to avail themselves, through this agency, of selling their honey by car-load lots, where it is not convenient to deliver their honey in Julian, they can deliver it at Foster or Lakeside, but must have their honey inspected or graded and bring their receipt from railroad agent and deposit the same with the agent at Julian.

ORANGE COUNTY'S CROP.

Orange County's honey crop for the current season promises to be particularly small, says the Santa Ana Blade, and instead of 20 car-loads, as was the aggregate output last year, the figures for this season are put by well-known and reliable authorities at not more than one-fifth of that amount. For the promise of the beginning of the season has not been fulfilled, and instead of having "honey to burn," or to sell, many bee-men are already buying sugar to feed their bees, and many more are undecided whether to incur the extra expense of feeding the colonies over the season in the hope of more favorable conditions another year, or to let them take the chances.

J. N. Smith, probably one of the best informed men in Orange County on the subject, says he has made a careful canvass of the county in the interest of the honey-business, and from information obtained from reliable sources, he feels confident that not more than four cars of new honey will be available for shipment the present season, and he further says he will not be surprised if the yield for last season is 16 or 17 cars less, or reduced to figures more easily understood, is a shortage of between 200 and 250 tons from last season's output. For from 12 to 15 tons is considered a car-load, and thus the weight is roughly arrived at.

The leading bee-keeper referred to when introducing the above quotation, has this to say in a private letter to us, under date of June 26:

EDITOR AMERICAN BEE JOURNAL—

Dear Sir:—Enclosed please find a clipping from the last San Diego Union, about the honey crop this year. The estimate of 20 cars for this (San Diego) county is, in my judgment, very high.

Julian, the place where they expect some honey, is on the extreme summit of the highest mountain range in the county, and some 75 miles back from the coast. Up there they have few bees and fewer honey-plants, and as they get no late rains, they will find, as it is lower down toward the coast, that flowers do not necessarily produce honey. I have just returned from up that way, and although I saw thousands of acres of our best honey-plant—the wild buckwheat—white with bloom, the bees did not touch it.

The fact is, our honey-plants are now at their best, but they yield very little—so that scarcely any are extracting, and they are doing it, feeling that their bees will not get enough later to carry them over.

I looked through about 500 colonies 40 miles back from the coast, this week—where they are surrounded by millions of flowers—and found only about one-fourth of them with enough honey to justify extracting.

I get reports from all over Southern California like mine. The north half of the State never has cut any figure in honey. In considering the crop from this State, you should realize that California is a *long* State—as long as from Louisiana to Chicago, or Savannah to Maine—and

that the only *real* region where honey is produced is in the southern half.

Honey-buyers agreed with each other, as soon as it was given out that we had a prospect of a honey crop, to pay but 3½ cents here, f. o. b. Their mouths watered for the crop, and they agreed to cinch us.

You may be certain that our crop will not enter into the East at all this year. Yours very truly,

This is indeed a sad condition of affairs for California bee-keepers. In all probability, then, what seems to be their loss may be the gain of the bee-keepers east of the Rocky Mountains.

In view of the honey prospects throughout the country, we should say that honey certainly should not be any lower in price than last year, and it may be a trifle higher. Still, it must not be forgotten that there was considerable honey carried over from last year, and this may aid in holding the price down somewhat.

We would like to see all our bee-keepers prosperous and happy—not only for their own welfare, but for the good of all mankind. None of us liveth to himself. We are all of one body—one humanity—and so no one should rejoice over the probable or real prospects that may result in adversity even to a portion of our fellows.

Let us all hope that there may yet be a fair harvest of honey for every worthy bee-keeper in this great country of ours.

The Weekly Budget.

Mr. N. E. France, the energetic inspector of apiaries for Wisconsin, wrote us June 30, as follows:

"Bees in southern Wisconsin are starving. One year ago we were talking basswood honey. No clover in 1902. There is plenty of clover in central Wisconsin."

The Apiary of Wilford Chapman appears on this page. Mr. Chapman wrote us:

"I send a photograph of my apiary of 145 colonies. The person shown is my son "Harry." The bees did fairly well here last year, considering the dry weather. I had about 5000 pounds of comb honey.

"I think the American Bee Journal is just right—full of good for the bee-keeper."

Dr. C. C. Miller, of McHenry Co., Ill., wrote us recently as follows:

"I think June, 1902, was the worst June for bees I ever knew. So cold that throughout the entire month I wore the suit of clothes I wore in winter, only I shed my underclothes. Clover seemed to yield only pollen, and I fed nearly a thousand pounds of sugar to prevent starvation. Suddenly there came a change July 2, and now for several days we have had delightfully hot weather. Whether there is any nectar to be had from the clover is not yet determined, but after the manner of bee-keepers I am hopeful."

Mr. Gus Dittmer, of Wisconsin, wrote us July 7:

"I am thinking of going to Denver in September with the rest of you."

Good! Keep on thinking about it, Mr. Dittmer, and we are sure you will then go. We would like to have such a representation there from east of Denver as will simply overwhelm those "windy" Coloradoans. Of course, we want to see a lot of people from west and south of Denver, too—in fact, from everywhere. Wouldn't it be a fine joke on those Denverites if there would be such a crowd that they would simply have to allow all to walk on their "beautiful grass," whether they wanted to allow it or not. You know that "Working" secretary of the Colorado Bee-Keepers' Association, said they had such restful grass to *look at!* Pshaw! we want *to walk* on it, and all over those alfalfa-honey chaps out there. They're "just too sweet" for anything, and need to have some of it "extracted." Let's go for them!

Mr. Thomas G. Newman, in a letter to us dated June 30, had this to say in reference to attending the Denver convention in September:

"Had my health increased and given me strength enough to have borne the journey, I might have put in an appearance at Denver, which I fully hoped to have done, but I am in no condition now to take such a journey, and must, therefore, give it up. I shall be with you in spirit, and hope for a pleasant and profitable convention."

With many others we regret that Mr. Newman will be unable to go to Denver. It would be a nice thing if all of the old friends, who are in the West, might be present at the next National convention. We hope that as many as possibly can do so will be there, and make it a grand reunion.

Mr. Sanford Hartman, of Lincoln Co., Nebr., wrote us June 18:

"If Providence permits, my wife and myself will join your party when you go through to Denver, and help you take in the sights. You want to take time to take in some of the excursions up into the mountains. It's the grandest thing you ever saw."

We hope that a large number will join our party on the way to the Denver convention. Remember, our train leaves Chicago at 10 a.m. on Tuesday, Sept 3, on the Chicago & North-Western road, and arrives in Denver on the Union Pacific at 2 p.m. Wednesday. A little later we will likely

APIARY OF WILFORD CHAPMAN, OF CHIPPEWA CO., WISCONSIN.

have more to say about the sights along this route, and also about the attractions in and around Denver.

SANTA CLARA VALLEY, in California, is one of the most fertile and productive localities of the world. Its fruit has a wide reputation for excellence, and its flowers are incomparable. The bee-keepers in that delightful climate met on June 26 for the purpose of organizing an association. There are over 300 bee-keepers in Santa Clara County, and they should have an effective organization, to advance their interests, and protect the pursuit. After some informal discussion an adjournment was taken until July 5, when a permanent organization was to have been effected.

Contributed Articles.

Table of Contents and Index to Books.

BY PROF. A. J. COOK.

I have just been indexing the 19th 1000 of my "Bee Keeper's Guide." This leads me to pen a few words on "Table of Contents" and "Index." To me, no part of a book —especially a really helpful book—is of more value than a good index. The table of contents is not quite so valuable, but is, to my mind, a far too valuable part ever to be omitted. I believe it will not be amiss to say a word in suggestion of how these parts of a book can be best utilized.

When I get a book that promises to be useful in my work, I first study carefully the table of contents. If this is well thought out and planned by the author, its thorough study will make one very conversant with the entire contents of the book. He will thus in an hour learn what it would take days to compass by the slow process of careful reading. Indeed, it will take a year or more of reading, verified by actual practice in the apiary, for one to become conversant with the whole text so he may know what a mine of wealth he has in good suggestion, fact and valuable history. Whereas, a thorough but brief study of the contents will make them keenly alive to these treasures of information. He will know that they are there, and the chapter that contains them.

To illustrate: Take Chapter XVI in my own book. It treats of marketing the products of the apiary. The table of contents gives the subjects treated as follows:

How to invigorate the market; preparation for market. Extracted honey; how to tempt the consumer. Comb honey; rules to be observed. Marketing bees; selling queens; selling bees by the pound. Vinegar from honey. Fairs and the market: What they should be. Effects of such exhibits.

A few minutes of careful, thoughtful study of this series of topics gives not only what this chapter has to give the reader, but suggests the methods and treatment throughout the entire book. Any book which is to serve at all adequately is seriously handicapped unless it offers its readers a good table of contents.

The index may well be studied from the same point of view. A good index, however, has other and even better use. It serves as a wondrous time-saver. Even though we have the best of memories, and have been most faithful students of our text, there will yet be points that we shall not keep in memory, and which we shall wish to use when time forbids much study or chance to find what is in demand. At such times a good index is invaluable.

The index, to be perfect, should present every subject under every possible head that would be suggested to the person who comes for light and information. Again, to take my own book for example. A person may come upon something that suggests "foul brood;" the ill-odor, the sunken cell-cap or the perforated capping to the brood-cell. He wishes at once to know what the trouble is. He may know nothing of foul brood, when he will turn to the index for diseases of bees, when will be treated, dysentery, spring dwindling, bee-paralysis, new bee-diseases, black-brood, sour-brood and foul brood. Or, if he has foul brood in mind, he turns at once to that in the index, and finds under foul brood: illustration of; nature of; remedies for; fasting, phenol, salicylic acid. He can turn at once with no loss of time, to the very theme that most concerns his present needs

In case of the young bee-keeper, robbing may come as a very practical theme in his experience The index directs him at once to the very page where the cause and cure are to be described. The novice may commence his work when the bees are busy. Later the nectar-flow ceases, and the bees cross and irritable, being a new and not so pleasant experience to his life and work. Possibly he turns to stings, and finds where to look for prevention and cure. Or, if his desires are in line of protection, he will find under bee-dress, bee-veil, veil, bee-hat, hat, smoker, Bingham smoker; etc.—just what he needs in his extremity.

I doubt if any of us realize to the full the value of a good index. As in making a book, it is the most arduous and trying part of the work, so to the owner of a book it ought to be the most valuable and helpful portion. I suggest to all our bee-keepers to give a little time to the index of their bee-book, and I am sure it will open their eyes to the wealth of information they have right at hand.

Akin to the last is the Glossary. This is also valuable, as we may judge by the more and more frequent place that it finds in our text-books, especially the practical manuals that are to help in the every day work. A good glossary, well-paged that every theme may be quickly sought out and fully studied, is a valuable part of any manual, and will richly repay close and frequent study. This will make our reading and study more accurate and valuable.

Los Angeles Co., Calif.

Does the Rearing of Queens as Given in "Scientific Queen-Rearing" Have a Tendency Toward a Race of Non-Swarming Bees?

BY G. M. DOOLITTLE.

Among other things, in a very interesting letter from a correspondent, I find this:

"I should like to know if you claim that queens reared by the plan given in 'Scientific Queen-Rearing,' have a greater tendency not to swarm than those reared by the bees during the swarming season, as most bee-keepers allow their bees to rear them. I purchased your book a few years ago, and have reared a few queens each year in accord therewith, and very few of the queens so reared have led out swarms, while my other colonies have kept up an excessive swarming each year. The queens in these swarming colonies were reared under the swarming impulse, by colonies casting swarms, as are the most of the queens in any apiary where the bees are allowed to swarm. Then, four years ago I purchased a queen which I supposed was reared by the plan given in your book. This queen has done well for me; but the point of interest to me just now is this: Although she has kept her hive full to overflowing with bees, they giving me a good surplus each year, fully as much so as any queen I have amongst my 150 colonies, yet only one swarm has issued from her colony since I got her. Can you enlighten me in this matter through the columns of the American Bee Journal?"

I have never made the claim that queens reared by the plan given in my book, where the queen-cells are brought to perfection in upper stories, while the reigning queen was doing good work at egg-laying below, were less inclined to swarm than were those reared when the bees were preparing to swarm, as I formerly reared all queens before perfecting the plan as given in "Scientific Queen-Rearing." At that time I was quite certain that queens reared under the swarming impulse were the very best possible, just as some still claim, but I now believe that it is possible to rear queens by other methods which are every whit as good in every respect, and perhaps better in some, than queens reared from natural-swarming cells.

Some 25 years ago I noticed that queens reared without the bees having any intention of swarming—where this was done to supersede a failing queen—were less inclined to swarm than were those reared during the height of swarming, and so jotted down this fact in my diary at that time; and during the time intervening since I first noted this matter, the queen by supersedure cell, whose bees have been given too much swarming, has been the exception, not the rule. Queens, where reared by the plan as given in my book, are brought to perfection in very much the same way as are those reared where a case of supersedure happens; and I have thought that the bees from them were less inclined to swarm. In any event, I have had far less swarming in my apiary during the past 12 or 14 years, during which time I have reared nearly all of my queens over queen-excluders, than I formerly had; yet I would not think it best to put forth the idea that a continuation of thus rearing for a quarter to half a century would give a race of non-

swarming bees, as my apiary has been managed much different during the time mentioned than it formerly was, queen-rearing being more in evidence now, while before the "race" was wholly for comb honey.

When God told all animated nature to "go forth, multiply, and replenish the earth," He implanted in the same a nature to do so; and if that nature is not carried out in bee-life, through the issuing of swarms, it will come about through the intervention of men, by way of such manipulation of hives as will throw the colony out of its normal condition, in my opinion, rather than by breeding for a race of non-swarming queens and bees. At least, that is the way I am inclined to think after all of my efforts along this line during the past.

I have received several letters similar to the above, relative to less swarming occurring since those writing had practiced the plan of rearing queens as given in "Scientific Queen-Rearing." But it must be remembered that for several seasons past, taking the country as a whole, we have had rather poor seasons, and such seasons would be conducive to less swarming. Of course, there is no harm in watching this matter; but to put forth the claim that a persistent rearing of queens over a queen-excluding honey-board, or in a part of the hive partitioned off by queen-excluding metal, will bring forth a race of non-swarming bees, would, I fear, in the end, only result in disgusting those who went into such a trial with a full belief in the honesty of the one making such claim. However, I must admit that no news would sound more joyful to me than to hear it as a settled fact, that we had accomplished what has so long been sought after—a race of bees which are non-swarmers, no matter by whom bred, in what locality they were found, and under any and all circumstances in which they were placed.

Onondaga Co., N. Y.

No. 7.—Rearing Long-Lived Queens and Bees.

BY DR. E. GALLUP.

Now, I am not writing this series of articles in a spirit of fault-finding, but in a spirit of trying to get at the truth in the matter of queen-rearing.

A queen may start out the first season and do fairly well, no matter if she is improperly reared; but she almost invariably fails the second season.

Yesterday (June 10) I examined two colonies that had queens that I obtained last season; one had scattering brood in one frame, and the other in two frames, while one natural queen had brood in 14 frames, and every cell occupied as far as she went. The first two are decreasing in numbers, while the other is rapidly increasing. The first two are Italians, and the other is a black of the same age as the first two queens of my own rearing. This season they have from 8 to 16 combs well filled, according to the amount of room I have given them and the time they have been in the hive.

Now, some one says the Italians are more reluctant to take possession of the supers than the blacks. Are you sure? or is it because the Italians have been degenerated by artificial or improper rearing?

In receiving so many queens, and from so many different breeders, the queen-breeder is at the first end of the line, and I am at the second. In ordering queens I prefer the untested, because *I* want to test all the qualities—purity, longevity, etc. In getting queens from an old, established breeder, the percentage of impurely mated is quite small. Then the chance of an untested queen being injured in the mail is not so great as is the tested one, and all she is tested for is for her purity. She is not tested for longevity and other qualities; it takes at least two seasons to test a queen properly. In ordering 12 queens from six different breeders, last season, only two were improperly mated, and not one of the 12 was worth keeping the second season.

When I first started in to making artificial swarms, it was with the greatest kind of enthusiasm, but it did not take long to find out that the artificial queens did not begin to come up to the natural ones, especially the second season.

On page 92 of Cook's Manual, he says the time when queen-rearing is naturally started by the bees we should conclude that queens reared at such seasons are superior. His experience—and he has carefully observed in this connection—most emphatically sustains this view.

Now, I will make a statement, that only queens reared under the swarming or superseding impulse, and in strong colonies (the stronger the better), are perfect. There is a missing link to all queens reared in any other manner, whether reared on the Doolittle, Alley, or any other plan. I have reared very good queens, that is, they were very good the first season, but the second season they invariably failed.

By building up a strong, extra-populous colony, then taking out a frame of comb containing the old queen, without disturbing the colony with smoke or in any other manner, at a time when they are gathering an abundance of stores, so as to have them in as natural condition as possible, they would make a large amount of royal jelly, but the missing link would be lacking. Queens reared in that manner failed the second season.

Some 35 years ago I dissected a queen-cell that was built in an extraordinarily strong colony, under the superseding impulse. In that cell I think I found the missing link. The embryo, chrysalis, or nymph, had what I called at that time, an umbilical cord attached to the vulva at one end, and the other end attached to the side of the cell, near the base, by three or more small rootlets adhering to the side of the cell, and extending to very near the base. I then "went gunning" for more of the same sort, but found none, as I searched for them in cells built over worker-larvæ or forced or unnaturally reared queens.

About that time I went out of the bee-business entirely, but kept up a strong thinking "why" I should find one, and only one, with that attachment. Was that a freak, or was I mistaken? Now, Prof. Cook, you are a scientist, which I am not; I ask you to look into this matter scientifically, and give the bee-keepers the result. Select cells from colonies that are built under the swarming or superseding impulse, dissect carefully, beginning near the base, and open it so as to get at the back of the chrysalis, for if you open it at the front you will be likely to destroy the roots, or misplace the cord so you can not make a careful examination of all its parts in their natural position. Those roots or tendrils do not go wandering around through the mass of royal jelly, but closely adhere to the wall of the cell. They suck up substance from the jelly and convey it to the queen through this tube, so she is receiving nourishment all the time. She is in the embryo stage after she has done, taking nourishment through the mouth.

Right here is partially where the longevity comes in, extra-prolificness, etc. If you examine one of those natural cells immediately after the queen has emerged, you will find the jelly that is left completely dry, tough and leathery-like, whereas examine one where you have reared an unnatural queen, before the workers have had a chance at it, and you will find it still quite moist. The missing link was lacking to convey the moisture up to the embryo. I have often wondered why there was such a lavish expenditure of seemingly useless royal jelly made by the bees. But from my present knowledge even a blind man with his eyes shut ought to see that the blessed bees know what they are about. They even do their share where they are compelled to rear a forced or unnatural queen.

Upon the quality of the queen depends the profits of the apiary. There is a vast difference between a queen that will deposit from 3 to 6 eggs in a minute and one that deposits an egg every 10 or 20 minutes. The first-mentioned compels the workers to store in the supers by their numbers and longevity, while the last-mentioned will not for lack of numbers. Of course, I mean when they are gathering sufficient to store.

A number of years ago I took an unusually strong colony of bees out of a house about 4 feet square and 6 feet high; they had been in there so long, and reared their queen to suit the capacity of the house, that the bees lived to a great age, and had become regular bandits or pirates, and a nuisance in the neighborhood. Whenever there was a dearth of forage for them to gather from natural sources, they would pitch into standard colonies in the neighborhood *en masse*, and rob them outright. They tried it on my bees, but I fixed a trap for them, and caught and kept a good, strong colony of them. I notified the owner, and he finally employed me to take them out, as the neighbors made such strong complaints about their depredations that it was disagreeable for the man to stand it. Now, what I am getting at is this:

In that colony there were not only a few old black, hairless, shiny bees, but there were thousands of them. They were so long-lived that they would forget their bad habits from one year or season to another. I have had a grand chance, in many instances, to look thoroughly into this theory. Long-lived queens make long-lived workers, and short-lived queens make short-lived workers.

Orange Co., Calif.

Convention Proceedings.

Benefits Derived from Attending Conventions.

Read at the Wisconsin Convention, in February, 1902,

BY JACOB HUFFMAN.

Our annual meeting has proved to be a great pleasure and profit to each of us, and I feel that as a result we receive valuable help for future work.

There are so many interesting and instructive features connected with, or, in other words, discussed at our annual gatherings that I am puzzled to know where to begin. To me they prove a school of no small importance.

I have been able to write down these among the things gained: Helpful thoughts suggested; experiences that have been given—given by men of talent, men who have succeeded in bee-culture, men who have accumulated wealth, simply through skill in practical bee-keeping. If a man chooses to be a mere cipher in the bee-industry, he can possibly afford to let our conventions go unattended; but if ambitious he will seek a wider outlook, take up bee-culture with its diversified activities, educating the head and strengthening the judgment. It is at these gatherings we get the very extract of success, possibly given in a nut-shell.

I would like to be able to point out a few of the advantages as they appear to me.

The question relating to our becoming consolidated, forming laws and restrictions by which the State, through legislation, is bound to protect the industry. It was in our conventions the question of foul-brood law was agitated. The discussions are full of useful suggestions, beneficial to bee-keepers all over the State.

Through our organization we have been able to kill bills introduced, which, if passed, would have been detrimental to the bee-keeper. We must admit that a vast amount of fraud has been perpetrated through unjust legislation. In this organization we have men of back-bone who are not afraid to inquire into the situation, put in our protests, and demand our rights. It is possible through the medium of our society to educate apiarists so that they may be able to take a great step in advance of where they are even at the present time.

Through these discussions we are able to distribute light and practical information which leads to scientific queen-rearing, successful wintering, the building up of a trade for our products; the hive found to be the most convenient and practical; the best and safest packages for shipping. Thus, we are enabled to make our dealings so plain, straight and honest that no outside concern can gain any foothold upon our transactions—a code of fair, honest and equitable prices.

As we confer together it is inevitable that we differ in opinion, but the current of friendship and brotherly love courses through all our transactions—important not only as regards dollars and cents, but important as regards social acquaintance. It is a mistake to think we are smart enough to "go it alone." You are far more likely to succeed if you confer with others who are working along similar lines. It is the listening and inquiring mind that paves the way to results. The whys and wherefores are always to be thoroughly considered. We live in an age of progress, when success depends more upon brain than muscle. God pity the man who is not progressive.

The thought I wish you to get hold of is, that much can be done through organization—the exchanging of thoughts without which no individual could otherwise hope to do.

The young must eventually take the place of the older ones. I know of no place where they can be better educated in bee-culture than by attending our annual gatherings, for combined efforts are always most effective.

Another feature: Through the medium of our State organization we are enabled to become members of the National Association; thus giving our members the benefit of the two for the same rate of membership.

The social part of our gathering is by no means to be omitted; to pass it by unnoticed would be unjust, although the last feature spoken of is by no means the least. These meetings are an endless source of pleasure as well as profit to the many who avail themselves of their opportunities. Speaking for myself, I never go home without feeling a great deal better friend with myself and with those whom I meet. We are quick to recognize the pleasure we derive from these gatherings, and from the friendships made. The hearty handshade of our editors—it is with pride we welcome them at each session. We feel honored by a visit from so worthy a body of co-workers. And doubtless they, too, pride themselves that we are possessed of such a thriving, enterprising society. The two great aims of life that actuate the most of our movements are pleasure and profit; these noble men bring both to us.

The knowledge and ability of each officer and annual member of our Association have enabled us to gain the most out of each passing event. Let us all take home what we gather here, and we shall be better men, and better apiarists.

Green Co., Wis.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

PUTTING PRODUCER'S NAME ON HONEY.

Let me offer a compromise in the matter of whose name shall go on the honey. Mark the white honey "Andrew Jackson," and the amber "Julius Cæsar." Are you sure this way would not be just as well? Consumer never eats the inscription, and rarely pays any attention to it, I reckon. However, if dealers *would* allow the producer's name on it, said producers would, in many cases, be quite a little bit more careful in putting it up. Few of us are so bad as to enjoy seeing our names on a swindle.

STORING IN SUPERS AND BELOW.

No matter how strong may have grown the habit of storing in supers, bees will put the honey below if there is room for it there—Dr. Miller thinks. I think he's wrong—in regard to some bees, in some cases. I think I have had bees, in quite a number of cases, get so interested storing in sections in August, that they kept on after there was room below, and after, in all reasonable prudence, they *ought* to put the honey below. I have not positive examinations and records to show for this, however. Their plan—if plan is a right name to use—was to form the winter cluster at the top of the brood-frames and eat on up into the sections. Plan is a good one, but the final removal of the sections makes it disastrous. But the general drift of Dr. Miller's article is right, I think. Page 358.

ROBBER-BEES AND THE ROBBED.

Having had one excellent reply, to the effect that robber-bees sometimes but rather rarely sting the bees of the colony which is defending against them, behold, now comes W. W. McNeal to tell us that they are bloated with poison and very ready to sting the bees which oppose. But, under my glasses, his article seems to be almost wholly made up of it-must-be-so arguments. That style of reaching conclusions looks a little out of place in the 20th Century. Let the previous centuries suffice for the reign of King It must-be-so, and let us put Prince It-is-visibly-so on the throne. Page 359.

ITALIANIZING AT SWARMING-TIME.

At Italianizing swarms while they are being hived I am totally without experience, and so specially interested in the experience of Mr. Doolittle. Poor plan. A little better when you hive on the same old stand. But even then part of the bees are liable to ball the queen for awhile. Meantime, the rest of the bees are disgruntled at the balling, and at things in general, and many of them start out individually and find homes elsewhere, else get killed. Page 359.

PREVENTING SWARMING.

I eat a large grain of salt with the assertion that bees extra-well fed as larvæ will live very much longer than other bees. But, while this is the case, I am quite prepared to hear that bees almost starved to death in their development period might be found very short-lived, and perhaps poor workers while they did live. Until we know more about this we would do well to be shy of all manipulations (whether to prevent swarming or otherwise) that throw large amounts of open brood into a hive which most of the bees will quickly desert. Why such brood does not die very

much oftener than it actually does, is one of the minor wonders of apiculture. Practically, to throw brood away—or worse—would be a heavy price to pay even for non-swarming. But perhaps I am an alarmist seeing ghosts and things. This about the paragraph on preventing swarming, page 371.

CHEMICAL CONSITUENTS OF BEESWAX.

The convenient definition that beeswax is chemically a varying mixture of three different waxes, seems to be upset by the report of Prof. Eaton, page 361. Mixture of two compounds with small quantities of two other compounds. Whether all the four are properly called waxes or not seems to be left a little "*in nubibus.*" All right. Getting exact truths is bothersome, and comes high; but we can't do without it—not even if the next chemist finds five substances, and quarrels with previously reported proportions. But next time he must tell us what the "ester number" is.

HOW THINGS SEEM IN CANADA.

I smile—but not so broad a smile as might transpire in Canada. In that region, it seems by page 363, an object a foot across is a *little* larger than one's face.

AN EXTRACTING KINK.

From Aikin's paper to the Chicago convention I take this item: The bees of an extracting super, when an extracted super with honey-bedabbled combs is put beneath, stop persistently at the border of it, so that you can't smoke them out of the super you wish to clear. This is just what might be expected, and still what many of us would fail to foresee. Page 374.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Getting Rid of Burr-Combs.

This has been the best season I have ever had with my bees, and as a result there are great masses of burr-combs built between the tops of the frames and the supers, and also between the frames. What is the best plan to get rid of these next spring? ALABAMA.

ANSWER.—I know of no other way but to scrape off the objectionable combs. For this purpose a knife of any kind may be used, the knife not sharp enough to cut the wood easily. Years ago the general space over top-bars was ⅜ inch instead of ¼, and every year I cleaned off the burr-combs over top-bars at the time of putting on supers. I used a sharp garden-hoe. Bracing my foot against the top of the hive in front, I scraped the hoe toward me, while an assistant kept the bees smoked out of the way.

Plan for Working for Comb Honey.

Do you think it is a good plan to work for comb honey in the way E. E. Coveyou tells about on page 411?

SUBSCRIBER.

ANSWER.—The plan is an excellent one, being substantially the same as has been repeatedly given in this department. His communication, however, is not entirely without error. He says nothing about using a queen-excluder, although he seems to put on at once the super that has already been occupied. Whatever may have been his experience in this regard, others have found that in such case the queen is very likely to go up and lay in the super, if no excluder hinders, even if full sheets of foundation be in the brood-chamber. So the safe thing is to put the super on the swarm *after* the queen has established a brood-nest below, unless an excluder is used.

He says to move the old colony about a week after swarming so as to have the flying force united with the swarm, which is really the core of the whole matter; but he is a little confused when he says, "it is better to have the flying bees from the parent colony enter with the swarm, as it gives the swarm wax-workers, which is very important at this time, and it gathers later." There will be a full quota of wax-workers with the issuing swarm, and the bees that join the swarm when the old colony is removed will be field-bees that are already gathering and will do little at wax-work. So instead of helping to have more wax-workers, the *proportion* of wax-workers will be less than it was before the accession of the flying force from the old colony. But this is simply a little matter of misunderstanding, and leaves the plan all right.

A Beginner's Questions.

On June 19 I had my hive open and counted the queen-cells, there were 4 capped, 7 or 8 ready to cap, and 19 in various stages of construction, nearly all with eggs or larvæ, each side of the brood-frame had one or more. Now I have had the drone-guard on since June 12; on that day I moved the hive to one side, and put an empty one in its place with a guard on it, and shook the bees off the comb in front of the trap. I found it impracticable to get all the bees off, but I cleared the combs sufficiently to expose the queen, if she was there (as I thought). After doing this I replaced the combs in the new body, and watched as the bees went in; there were lots of drones, but no queen could I find. Now that trap has been on ever since (that night I allowed drones to enter the hive). All this morning (June 24) the weather was wet and dark, but at 2 p.m. the sun came out brilliantly, and I was out feeding chickens when I saw the air was full of bees; they clustered in the forks of a little apple-tree, about 3 feet from the ground, and I left them there and went and took the trap off of the hive, as the bees were still issuing; then I took a frame from the hive with a little uncapped brood in it, some honey and the rest uncapped brood, with 3 capped queen-cells at the bottom, and held it among them. It would hold only a few, however, so I placed it in the hive with frames of foundation and shook the bees off into a box. It held 6 quarts and was filled once and three-quarters, or more than a peck of bees. They all went into the hive all right, but I do not know whether the queen is with them or not, and that is my trouble. I put the super they had been working in on their hive, but no honey-board. There is only a little honey in 3 or 4 sections.

1. Should I now cut the queen-cells out of the original hive, leaving but one?

2. In case the queen stayed behind, will the bees stay in the new hive and hatch queen-cells without trying to swarm out with the queen as they fly out? And if the queen is in the old hive will she kill off hatching queens?

3. Should I have put the honey-board under the super?

4. The bees clustered within 50 feet of the old hive. Can I move them back beside it?

5. I suppose the drone-trap must come off now, to allow young queens to take their wedding-flight. ILLINOIS.

ANSWERS.—1. Under ordinary circumstances, cutting out all cells but one would be all right. In this case it is not safe, because you did the very unwise thing to shake the combs. Please never do that again. If you shake combs with queen-cells you are likely to injure or destroy the young queen. So if you should now cut out all queen-cells but one, the one you left might contain a deed queen. The safer thing now is to put your ear to the hive each evening, and when you hear the young queen piping, go to the hive the next morning and cut out *all* queen-cells that are left. Of course it is now too late for this, but I am talking about what you ought to have done. When the swarm issued there was possibly a young queen with it (the old queen having been killed or lost), and in that case you would need to cut out *all* queen-cells that were left. You could tell whether a young queen had emerged by seeing whether there was a full-sized cell empty.

2. If I understand you rightly, the hive on the old stand is one you are talking about, it having most of the bees and brood, with a number of queen-cells. The great probability is that when the first queen emerges the bees will swarm. (The plan mentioned of listening for the piping queen would help out.)

3. If bees are put into a hive without empty frames or foundation, and sections upon which they have been working are at once put on, there is danger that the queen will go into the sections. Either wait a day or two before giving the super, or else use an excluder.

4. After bees have been flying even for a few hours, it is difficult to move them a short distance without loss of

bees. Fasten them in the hive for 24 hours, then pound on the hive before opening it. Look out that you don't smother them.

5. Yes, unless the young queen can fly out she will be a drone-layer, if she lays at all.

Size and Style of Hives—May be Lazy Bees—Bee-Sting Cure.

1. What size and style of hive would you use in Iowa, running chiefly for comb honey? I have 6 colonies of bees, 3 in American hives and 3 in Langstroth hives. Which do you think is the better?

2. I have a colony of bees that do not work as fast as the other colonies. What is the matter with them? The supers are not on, and the hives are light, but there are plenty of bees.

3. The best remedy for bee-stings I ever had is Chamberlain's Pain Balm, applied frequently. IOWA.

ANSWERS —1. You will probably find that the hive with the regular Langstroth frame (17⅝x9⅛) will suit you best; but as you have both kinds side by side, you can decide for yourself better than any one else what will best suit you. But try and decide before you have many more on hand, for you will find it a very troublesome thing to use more than one kind of frame in the same apiary, unless you treat them as box-hives. Whether you should have eight or ten frames is a question not easily answered. On the whole, the probability is that the larger hives may be better, unless you object to the weight. The smaller hives require a good deal closer attention.

2. It is hard to guess what is the trouble. It is barely possible the bees are queenless. The queen may be very old and poor. The bees may be of lazy stock.

3. After you have had stings enough you will probably not give a rap for any remedy, but will quickly give a slap on your leg to kill the bee and wipe the sting out of your hand, and then go right on with your work.

Rearing Queens Under Superseding Conditions.

I notice that some breeders say their queens are reared under the superseding condition of the colony.

1. How could they have enough colonies superseding to rear many queens?

2. When a colony wants to supersede a queen do they kill her and then build queen-cells, or do they build cells and make her lay in them?

3. If they build the cells after the egg is layed in it, why should the queens be any better than the one reared by removing the old queen from the hive?

4. How can I find out when a colony is going to supersede the queen? I should like to find one in this fix, as I want to rear a few good queens for my own use, but as I do not bother the brood-nests much this time of the year, I am afraid I should not find any superseding their queens?

5. I have only 25 colonies, and they were all Italianized last year. Do you think they would be apt to supersede a queen this year?

6. What do you think of queens reared from the cells formed when the bees swarm? I have an idea that I could next year force some of my best queens to lead out swarms early by stimulating, and giving them sealed brood so they would be strong colonies. MISSISSIPPI.

ANSWERS.—1. A superseding colony can only rear one queen to completion, but it can start or continue a number of queen-cells at the same time, and one lot can be taken away and another lot given time after time.

2. They start queen-cells with the queen present, just as they do when they are preparing to swarm, only a smaller number.

3. The cell is built before the egg is laid in it; but I know no reason why a cell built for superseding should be any better than the best cells started under favorable circumstances when the queen is removed.

4. Look to see whether they have started queen-cells, and then guess whether it means superseding or swarming.

5. Sometimes a queen may be superseded before she is a year old, but in that case the superseded queen is poor. Usually queens are not superseded till three years old. Among 25 colonies you may expect about eight queens to be superseded every year.

6. Swarming cells are as good as can be had. If they are not of best stock you can inoculate them with larvæ from your best queen.

Piping of the Queen—Nice-Looking Apiary—Bee-Paralysis, Etc.

1. Can a person hear the queen pipe when standing by the hive?

2. How can I make my apiary look very nice? Also, where can I get any kind of dwarf shrub or bush that does not grow to exceed four feet in height?

3. How long does a queen remain in the hive after she hatches? and suppose the weather is too cold for them to swarm after she is hatched, what then? I have heard that the bees kept the two queens apart until swarming-time.

4. What are the first symptom of bee-paralysis?

I have a colony that I have been watching, and sometimes I see bees that are hanging out, start hopping around, and then fall off the hive dead. IOWA.

ANSWERS.—1. Generally speaking, no; but on a very still evening a queen may be heard when you are standing some little distance from the hive. The right way is to go to the colony after bees have stopped flying in the evening, and put your ear tight against the hive. You may then hear the free queen piping in a shrill voice, and the queens yet in their cells quahking in reply, in a coarser voice.

2. It is not well to have anything like a bush four feet high in an apiary. It would only be in the way, without giving a satisfactory shade. Perhaps nothing is nicer than to have spreading trees with a velvety sward beneath. If you do not care for expense, you might prefer a cement pavement to the sward, in which case there would be no grass growing up in front of the hives to trouble the bees. If you cannot have the trees, you can have the vines on a trellis overhead, the trellis being high enough so you can walk freely beneath. For immediate results you can have vines that grow from the ground in a single season, such as hops or wild cucumber, at the same time having something more permanent coming on, as grape, Virginia creeper, trumpet-vine, etc.

3. Don't take the hearsay of those that know little about bees, but get a good text-book, and it will enlighten you on this and many other questions. You seem to think a young queen comes out with the swarm. That is true only of after-swarms. The old queen comes out with the first or prime swarm, and perhaps eight days later the first young queen emergies. If the bees contemplate further swarming, they stand guard over the young queens in the cells, preventing the free queen from destroying them. A cold, wet spell may prolong this.

4. The bees you saw hopping about was perhaps the first symptom you might notice, unless it would be bees making a trembling motion with their wings, the other bees appearing to drive them out, some of the diseased bees being black and shiny.

Requeening—Bisulphide of Carbon.

1. In requeening would it be a safe way to place say 2 combs of brood and young bees on the old stand, and the young queen with them, placing the old colony on top, with a wire screen between, for say 36 hours? Then allow them to pass down through a bee-escape, after which place the balance of the brood below, and remove the old hive?

2. Would you allow a hybrid colony to escape general destruction whose bees have put up 120 Danz. sections of honey to date, about one super being apple or fruit bloom, the balance white clover?

3. I requeen to Italianize as the stock has run down, many too vicious little blacks. Here the surplus usually depends on buckwheat, and we have frequent swarms then. These are old queens and bees that usually die off at all events, in a few months. Why does not this method do the requeening, year after year, and what comb they make if taken care of is a help for the next season? Is not this method (of requeening) just as profitable as to bother with rearing queens, requeening, and all that? Of course new blood will have to be added year after year to meet the black stock and keep it in subjection.

4. In using bisulphide of carbon, do you stack up the supers and place the carbon on top? How long does it require?

5. How would it work to close up a cellar tight, and place it in there to destroy ants? or would the gas it generates remain in the corners thereof and wait for a lighted lamp to blow the house up? PENNSYLVANIA.

ANSWERS.—1. You are hardly explicit enough. You do not say just what bees are on those two frames that are

with the queen. I suspect, however, that the supposition is that they are at least such that there is no question about the safety of the queen with them. I also take it for granted that the old queen has been removed from the colony placed over. In that case I should expect the plan to succeed, especially if honey was coming in freely. But I should expect a good many bees to perish during the 36 hours imprisonment. Having the queen all right with two frames of brood and bees, perhaps you might like better the following way: Let the colony to be requeened be queenless a day or two; then place over it a hive with two brood, bees, and queen, having between the stories a heavy piece of paper or two or three thickness of newspaper, with a hole large enough to allow just one bee to pass from one story to the other. If honey is yielding when this is done, you need have little fear as to the result.

2. I would respect a queen whose workers were doing exceptionally good work, no matter what her color or pedigree.

3. I have studied over this question quite a little, and I can't make out what you mean. I should understand it to mean the method of requeening mentioned in the first question, you buying the new queens, as you speak of its being as profitable as to bother with rearing queens; but right after that you say new blood would have to be added, and you wouldn't need to add new blood if you bought your queens. If you will tell me what method you mean, I'll try my best to answer.

4. In using bisulphide of carbon stack up the supers and place the drug on top, as you say, and the length of time is not very material. At a guess, I should say that the work might be done fairly well in an hour; but 24 would be better.

5. The gas evaporates and diffuses itself through the air very rapidly, so that after the cellar is opened and aired for a few hours there would be no danger of an explosion.

Swarming Questions.

1. I had a small colony of bees in a hive for about a week; I then had a large swarm come out, and hived it; it stayed in the hive over night, but in the morning came out and went in with the small colony. After they left the hive I looked to see whether they had any comb, and there were two queens, and two bunches of bees inside with a queen about dead. Do you think they had all of these queens with them when they swarmed? They went into this other hive and carried out another queen.

2. Yesterday I was watching a swarm work, and I saw a queen come out and fly away; she was gone about three minutes and came back again; it was a second swarm. What made her do this?

3. I had a second swarm yesterday, and this morning I saw a dead queen lying on the alighting-board. Why did this queen die? Was she an old or a young one? The dead queen was on the old alighting-board. NEW JERSEY.

ANSWERS.—1. It will not do to be too positive about such things, but this may be a fair guess: There was a plurality of queens in the strong swarm, and for some reason the bees divided into factions, and part swarmed out with one of the queens, going in with the small swarm. The small swarm had a queen before, and now two were in the hive, and you saw one of them carried out dead. Sometimes a half dozen queens may be in an after-swarm.

2. She was out on her bridal trip.

3. Two or more queens were in the swarm, and all but one were killed—not an uncommon thing with an after-swarm.

Why Dead Cells?—Separators—Races of Bees—Bitter-weed Honey.

1. I gave a colony young brood from which to rear a queen. They made as fine cells as I ever saw. After waiting some time I opened them and found both were dead. What caused them to die? We did not have weather below 56 degrees during that time.

2. Suppose I use drone-comb starters for extracting frames, will the bees be likely to build the whole comb drone-comb? If so, how wide should the starters be? If not, how can I get drone-comb built?

3. Suppose I use separators, would the bees be likely to build nice comb honey without starters? If not, how can I fasten the starters without a regular outfit?

4. Do you know anything about the Carniolans, Syrians, Holy Land or Cyprian races of bees? If so, how do they work and sting compared with the full-blooded Italians? How do they do crossed with the blacks or Italians?

5. Would you advise me to have a few colonies of either or all four races with 75 colonies of blacks, hybrids and Italians?

6. Some times I see 3 or 4 bees around one bee; they don't seem to be trying to kill it, but act as if they were talking to it. What are they doing?

"Mississippi" asked you if bitter-weed honey was bitter; you told him you thought it was. You should try to eat some of it. I would like to see you when you try it. It is very pretty honey—looks as yellow as gold.

ALABAMA.

ANSWERS.—1. With weather at 56 degree there might be no danger of chilling brood, providing the weather continued at that or near that all the time. But if the weather were a good deal warmer than that for a good many days, and then a drop to 56 degrees there might be danger. For during the warm weather the circle of brood would expand, and then the cluster, shrinking on a cool night, the edges of the combs—the place where the queen-cells are most likely to be—would be exposed and cells killed.

2. With starters of drone-comb there will be more drone-comb built than with starters of worker-comb, but I should hardly expect bees to fill a whole story with drone-comb. The only sure way would be to have drone-foundation—a thing not easily obtained because there is no demand for it. Are you sure you want drone-combs?

3. You cannot depend upon the bees building in the right place without starters. Some who have no regular foundation-fastener use melted wax to fasten the foundation.

4. There are those who prefer each one of these different kinds, but the majority prefer Italians.

5. It would do no harm to try them, so long as your bees are not unmixed at present.

6. They act that way toward a strange bee, sometimes; just as a policeman might hold you up and question you if he should find you on his beat in the middle of the night in a strange city.

Virgin Queens Uniting with a Swarm.

When a swarm issues from a colony having a clipped queen, and a virgin queen comes out to mate, and goes among the swarm, will she return to the nucleus from which she came, or will she settle with the swarm?

Bees are about starving here (June 30); the weather has been so cold, and now it is so wet the bees cannot gather anything. PENNSYLVANIA.

ANSWER.—When a virgin issues from the nucleus to make her wedding-trip, she generally returns to the nucleus, but occasionally enters a wrong hive, and there is a possibility that she might be induced to unite with a swarm without any reference to the drones in that swarm.

The Buffalo Convention Report is issued in pamphlet form, size 6x8½ inches, 80 pages and cover. Besides a full report of the proceedings of the 32d convention of the National Bee-Keepers' Association, held in Buffalo, N. Y., Sept. 10, 11 and 12, 1901, it contains fine half-tone portraits of all the officers and directors of the Association; also the Constitution, a list of the membership up to the end of 1901, and the two latest bee-songs—"The Hum of the Bees in the Apple-Tree Bloom" and "Buckwheat Cakes and Honey." We believe it is the finest ever gotten out for the Association. Of course, all members of the Association receive a copy free, but there are thousands of our readers who are not yet members, but who should have this valuable Report. Better send for a copy, if you have not yet received one. Price, postpaid, 25 cents, or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal. Better order soon, before all are gone.

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PAGE

Pretty Hot

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GENERAL ITEMS

Full Basswood Bloom.

EDITOR YORK:—The following little poem was suggested by the condition that now exists, I am happy to say, at our three apiaries. The basswood bloom is very full; only unfavorable weather will prevent a good crop being secured. The trees seem to be in a healthy condition, and free from insect pests.

LINDEN BLOSSOMS.

The linden blossoms hang to-day
Like little bells so creamy white;
Around each flower the bees will play,
From early morn till dewy night,
Making the sound we love to hear—
The sign of the bee-keeper's prosperous year.

The winds and rains have passed away,
The fleecy clouds float in the sky;
Soft breezes cool the sun's bright ray,
While busy workers swiftly fly;
The while the bee-man's heart is thrilled
To see the combs so quickly filled.

The toiler is gladdened at the sight,
Good cheer the flowers have quickly brought,
Each day that closes clear and bright,
With blessing sweet its hours fraught;
Chasing the anxious thoughts away,
In fairer promise day by day.

HARRY LATHROP.

Lafayette Co., Wis., July 8.

Good Prospect for Honey.

We have a good prospect for honey, if the weather is right, but it was too cool and then too wet, but now it is warm enough. I never saw so much white clover.

Trumbull Co., Ohio, July 7. J. S. BARN.

Pollen-Gathering.

On page 355, I read, "Bees have some discrimination in the matter of collecting pollen, and if there is an over-supply in the hive they will let up on the gathering, no matter whether they have a queen or not. When a colony loses its queen the workers keep right on gathering the pollen just the same, but when the combs begin to be well supplied with pollen, then they desist from gathering."

Well, if the above statement is true, and confirmed with bees in the State of Illinois, or in the city of Chicago, then *our* bees are the most ignorant critters to be found, for they don't possess such intelligence. For they do gather pollen as long as there is any to be had, unless they become queenless and the brood all sealed, then they will slacken up in gathering either pollen or honey. But they always prefer gathering honey, if they can get it, excepting such colonies as have a young queen just commencing to lay; those will gather pollen if they can get it, in spite of all the pollen in the hive, and no matter how good the honey-flow, for they do not know when they have enough. I have put four combs solid full of pollen in such colonies to stop them from gathering more, but those ignorant things did not stop, but kept right on at the usual rate until they got "pollen-bound" to such an extent that the queen could not lay any more for want of room, and the bees could not deposit the pollen; but in the effort of doing so they would lose it, and large quantities would drop on the bottom-board. If a colony of bees is being run for extracted honey, in a 4-story hive, they will get very strong, and by fall will store nearly all the lower story full of pollen, and enough in the second story to carry them through until the next spring, when the same thing is repeated over again. So I have to soak the combs and set them to fermenting, when the

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

QUEENS!

Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North.

The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

We have files of testimonials similar to the above.

Our Breeders originated from the highest-priced, Long-Tongued Red Clover Queens in the United States.

Fine Queens, promptness, and square dealing, have built up our present business, which was established in 1888.

Prices of GOLDEN and LEATHER-COLORED QUEENS, after July 1st:

	1	6	12
Selected	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	9.00
Selected Tested	1.50	8.00	
Extra Selected Tested, the best that money can buy	3.00		

We guarantee safe arrival, to any State, continental island, or any European country. Can fill all orders promptly, as we expect to keep 300 to 500 Queens on hand ahead of orders. Special price on 50 or 100. Free Circular. Address all orders to

Quirin the Queen-Breeder,

PARKERTOWN, OHIO.

[Parkertown is a P. O. Money Order office.]

15A26t Please mention the Bee Journal.

Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

O. H. HYATT,

13Atf SHENANDOAH, Page Co., IOWA.

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BOYS WE WANT WORKERS

Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

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The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.

Excursion to Chautauqua Lake, N. Y.

On July 25 the Nickel Plate Road will sell tickets at rate of $14.00 for round-trip. By depositing return portion of ticket with Joint Agent at Chautauqua Lake, an extension may be obtained until Aug. 26, 1902. Also lowest rates to Fort Wayne, Cleveland, Erie, Buffalo and other eastern points. For full particulars, address John Y. Calahan, General Agent, 111 Adams Street, Chicago. 34—29A2t

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich.

Italian Queens —bred for business, by the best methods, and from the best honey-gathering stock. My bees are free from disease, and are hustlers. No small or inferior queens sent out. Untested, 75c; tested, $1.
28A4t D. E. ANDREWS, Bloomington, Ind.

Please mention Bee Journal when writing.

Bee-Keepers—Attention!

Do not put your money into New Fangled Bee-Hives, but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

Thousands of Hives, Millions of Sections, ready for **Prompt Shipment.**

G. B. LEWIS CO., Watertown, Wis.

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Leaving Chicago daily at 6.30 p.m.
Arriving Omaha - 7.00 a.m.
Arriving Denver - 7.50 p.m.

Another train leaves Chicago at 11.30 p.m. daily, arriving Denver 7.55 a.m., second morning.

The Best of Everything in Modern Transportation Service.

$25.00

CHICAGO TO DENVER, COLORADO SPRINGS AND PUEBLO AND RETURN.

Tickets on sale on various dates through the summer, and from August 30 to September 10, inclusive, covering the time of the **National Bee-Keepers' Convention** at Denver, September 3-5, 1902. Tickets are limited for return to October 31, 1902.

For tickets and descriptive booklet on Colorado apply to agents of the North-Western-Union Pacific Line at

461 Broadway - - - New York	301 Main Street - - - - Buffalo	12th Floor Park Building, Pittsburg
287 Broadway - - - New York	212 Clark Street - - - - Chicago	234 Superior Street - - Cleveland
601 Chestnut Street - Philadelphia	193 Clark Street - - - - Chicago	17 Campus Martius - - - Detroit
802 Chestnut Street - Philadelphia	435 Vine Street - - - Cincinnati	126 Woodward Avenue - - Detroit
368 Washington Street - - Boston	53 East Fourth Street - Cincinnati	2 East King Street - - - Toronto
176 Washington Street - - Boston	507 Smithfield Street - Pittsburg	60 Yonge Street - - - - Toronto

H. R. McCULLOUGH, Third Vice-President. W. A. GARDNER, General Manager. W. B. KNISKERN, Gen'l Pass'r & Ticket Agent.
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Queens Now Ready to Supply by Return Mail

Stock which cannot be excelled. Each variety bred in separate apiaries, from selected mothers; have proven their qualities as great honey-gatherers.

Golden Italians Have no superior, and few equals. Untested, 75 cents; 6 for $4.00.

Red Clover Queens, which left all records behind in honey-gathering. Untested, $1.00; 6 for $5.00.

Carniolans —They are so highly recommended, being more gentle than all others. Untested, $1.00.

ROOT'S GOODS AT ROOT'S FACTORY PRICES.

C. H. W. WEBER, 2146-2148 Central Avenue, CINCINNATI, OHIO.
(Successor to Chas. F. Muth and A. Muth.)

Marshfield Manufacturing Company.

Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.

7A26t Please mention Bee Journal when writing.

28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

extractor throws it out, and in quantities large enough to "paint the town brown," or green, if it happened to be that color.

Now, I suppose some of the readers will hollow, "What a greenhorn!" Yes, I suppose I am green yet, although I have kept bees for 10 years, and for the last four years I have made bee-keeping my principal business, keeping from 150 to 300 colonies, and producing large quantities of comb and extracted honey. If pollen were salable, I would have a wagon-load to sell every season. A colony of bees, in this locality, if run for extracted honey, will soon become so "pollen-bound" that something has to be done, for the bees gather so much of it that they can not consume it, and it is left in the combs and becomes a nuisance. Furthermore, if left in the combs, and honey be put on top of it and sealed over, and used for winter stores, it excites too much brood-rearing in the cellar, and the bees come out strong in bees and light in stores in the spring, some of them consuming all of their honey so they have to be fed in the spring. The same is true when all the combs are full of sealed honey. Bees winter best, in this locality, with about half of the combs empty, especially the center ones, and extremely poor fares a colony under such conditions, having a late-reared queen.

I lost 10 colonies last winter, having 10 sisters for queens of the choicest Italians this country produces.

So, for me, not too much pollen, and not depending on the bees to regulate the same.

A. C. BARTZ.

Chippewa Co., Wis., June 16.

Hiving a Swarm with a Colony.

In the "Editorial Comments" on page 403, it is requested that some one state "how long it may be necessary to wait after a colony has swarmed before a swarm can be given to it, without danger of having the swarm re-issue."

Time should be given for destruction of all queen-cells in the hive of the colony to which the swarm is to be introduced; or, the apiarist should go through the hive and remove them before introducing the swarm.

WM. M. WHITNEY.

Walworth Co., Wis., July 2.

A Swarming Experience.

Talk about swarming! It occurred in our apiary yesterday, and still at it to-day, but not so heavy. The young bees were out for a play; a swarm issued, and we covered the adjoining hives to avoid mixing. While we were watching for the queen we glanced down the row and saw two others coming out; we hurried there to cage the queens, when we looked back to where we had been a few minutes before, and saw the swarms coming out of the hives which we had covered. We uncovered them, and by that time about all in the row, some 30, had the fever, and were out. We glanced over to the row on "Easy Street;" they, too, had taken up the rumpus, and the whole string of them joined the others as fast as they could tumble out of the hives. We have the colonies all named—prefer names to numbers, as we never were very apt with figures. I am not going to give you the names of all, only a few that you are familiar with. "Rambler" swarmed about noon, and had been hived beside "C. C. Miller;" the latter behaved very nicely, and did not come out. I think the reason was, because "York" was not there to go along, as "York" had swarmed a week ago and was in the "hospital row." "E. E. Hasty," as usual, did his part last by coming out after all the others were through. "Rambler" got crazy, as he had always wanted to go to some place, and swarmed again. "Mrs. Rambler" got lost in the fracas. A few queens came out, all black ones, and got their heads pinched.

There was a cluster on a tree as big as a barrel. We thought of the man who had fixed the clock, and had enough left to fix another one. We beat that, as we had three light swarms housed with division-boards, the returning bees being about as many as a corporal's guard, so we helped ourselves to the big pile and fixed the three in working

—ITALIAN—

BEES AND QUEENS!

We have a strain of bees bred specially for honey-gathering and longevity. We feel confident of giving satisfaction.

PRICES:
for the remainder of this season:

1 Untested Queen .....$ .60
1 Tested Queen ..... .80
1 Select Tested Queen ... 1.00
1 Breeding Queen 1.50
1-Comb Nucleus, no queen 1.00

J. L. STRONG,

204 East Logan St., CLARINDA, IOWA.

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Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

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Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
Chicago, Ill.

BINGHAM'S PATENT Smokers

24 years the best. Send for Circular.

25Atf T. F. BINGHAM, Farwell, Mich.

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QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, JOHN THOEMING.

MONTHS	July and August.		
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00
GOLDEN QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00

Select tested, $2.00. Breeders, $5.00 each.

2-frame Nucleus with Untested Queen, $2.25 each; 3-frame Nucleus with Untested Queen, $3.00 each; 6 for $2.75 each.

D. J. BLOCHER, Pearl City, Ill.

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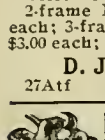

DAIRYMEN ARE DELIGHTED

to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.

DRAPER PUBLISHING CO., Chicago, Ills.

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order, took out the division-boards, and think they will make a record-breaker.

The fracas lasted about two hours; we had one queen too many, but she is now in the sweat-box. I expected there would be some queens balled by returning bees, but on examination I find all in order.

The mix-up appeared agreeable, and about equally distributed, only "Miller" was fuller than a tick. It will be obliged to get out soon to get room according to its strength.

The fun of it was, they were tame—no stinging. If any of the readers can beat that record, at home or abroad, I would like to hear from them.

I have 55 colonies, all were out but those that had swarmed except the wizard ("Miller.") No super work is being done; the weather is wet and cool.

We are thankful all our queens were clipped; if they had not been it is quite likely our apiary would have been sick to-day—at least the manager would have been.

The swarms have behaved very badly this season; they do not care where they return—enter any hive, and usually make two or three attempts before the queen is willing to go with them. J. P. BLUNK.

Webster Co., Iowa, June 27.

Long Drouth.

We had a very good flow of honey here during the early part of the season, but the last two weeks the bees have done nothing on account of the long drouth, and I am afraid they will not get any more surplus honey this year. JOE S. WISE.

Copiah Co., Miss., July 5.

Bees Wintered Well.

I wintered 55 colonies of bees—all that I put into winter quarters. I disposed of 13 this spring, have had 7 swarms issue, have made one division, and 5 nuclei.

JOHN T. COBURN.

Middlesex Co., Mass., July 1.

Hard Weather on Bees.

The past few days have been very hard on the bees. I am feeding the most of mine. The most populous colonies seem to be the worst off for honey. J. W. JOHNSON.

Stephenson Co., Ill., July 1.

Think It Was Starvation.

I rather think the case mentioned on page 419 is like many similar cases I have seen lately, which were complete starvation. The southern counties of Wisconsin, last summer, had severe dry weather, so that all clover was killed, with results as follows: Bees wintered well, were strong in April and May, 1902, gathered quite a little honey from fruit-bloom and dandelion, but it was *all* used up in the abundant amount of brood reared, so that by June 15 they were out of feed, and many colonies actually ate up the liquid portion of the brood, leaving the dry larvæ and grubs on the hive bottom-boards. Several apiaries I found once that in May were strong colonies, and by June 27 were dead from starvation.

Basswood bloom is opened. Good weather on July 3, 4 and 5, and good colonies did well. July 6 it was rainy. I never knew or heard of such condition in Wisconsin before.

Grant Co., Wis., July 7. N. E. FRANCE.

Good Crop Expected—Swarming.

I have seen several reports from various sections of the country, some discouraging. While we in central Indiana have had cold, windy weather my bees are in a flourishing condition, and I look for a bountiful harvest. The majority of the bees surrounding me have the foul brood. I manage to visit those within reach and exterminate it. Some it puts out of business.

I notice that swarming puzzles a great many, as well as myself. I have had a number ask how to prevent swarming. To me there is but one way that will give satisfaction,

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Low Round Trip Rates, via Union Pacific, from Missouri River,

$15.00	To Denver, Colorado Springs, and Pueblo, Colo., July 1 to 13, inclusive, Aug. 1 to 14, 23 to 24, and 30 to 31, inclusive.
$19.00	To Denver, Colorado Springs, and Pueblo, Colo., June 25 to 30, inclusive, July 14 to 31, inclusive.
$25.00	To Salt Lake City and Ogden, Utah, Aug. 1 to 14, inclusive.
$25.00	To Glenwood Springs, Colo., July 1 to 13, inclusive, Aug. 1 to 14, 23 to 24, and 30 to 31, inclusive.
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$31.00	To Glenwood Springs, Colo., June 25 to 30, inclusive, July 14 to 31, inclusive.
$32.00	To Salt Lake City and Ogden, Utah, June 25 to 30, inclusive, July 14 to 31, inclusive.
$45.00	To San Francisco or Los Angeles, Calif., Aug. 2 to 10, inclusive.
$45.00	To Portland, Oreg., Tacoma and Seattle, Wash., July 11 to 21, inclusive.

Correspondingly Low Rates From Intermediate Points.

Full Information Cheerfully Furnished on application to

E. L. LOMAX, G. P. & T. A.,

27Atf OMAHA, NEB.

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st

Send for circular.

JOHN M. DAVIS,

14A26t SPRING HILL, TENN.

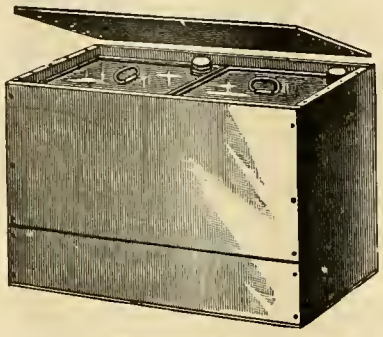
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

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$5 TO START YOU IN BUSINESS

We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.

DRAPER PUBLISHING CO., Chicago, Ills.

Please mention Bee Journal when writing.

Famous Italian Queens!

BUCKEYE STRAIN OF 3-BANDED LONG-TONGUES are wonderful honey-gatherers. One customer bought 10 dozen. Just think of it! (He bought a few last season as a trial.)

MUTH'S STRAIN GOLDEN ITALIANS.

As fine as money can buy. Either of the above by return mail, 75c each; 6 for $4.00. Selected tested, best money can buy, $1.50.

FULL LINE OF THE FINEST DOVETAIL HIVES AND SUPPLIES. Send for Catalog.

THE FRED W. MUTH CO.,

Front and Walnut Sts., CINCINNATI, OHIO.

Fancy Glassed Comb Honey

Any bee-keepers in New York or Pennsylvania producing either White Clover or Raspberry Fancy Comb Honey (in glassed sections), will find it to their interest to write to the undersigned at once.

GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

Please Mention the Bee Journal when writing Advertisers *****

and that is: First get one or more text-books, such as Langstroth, Prof. Cook's, or "A B C of Bee-Culture," and study the nature and habits of the insects which you intend to handle. Either before or after, subscribe for one or more good bee-papers. The outlay will be but $4.00 or $5.00. I insist that this is the only way to become successful, and then you are ready to prevent swarming or reduce it to a minimum.

My bees average $4.00 or $5.00 per colony, which I think does pretty well for this locality. Then, others do not get anything, and their bees often die from starvation.

I will give one of the ways I have to hold swarming in check: First, a deep entrance, full width, and keep the bees in a grove with plenty of suulight, cool to work with, then the heat does not irritate the bees. Clip the queen's wings and hive the swarm on 5 frames of starters, and put on the supers the second day; in about 10 days move the other 4 frames to the center of the brood-nest, or, I might say, when they have the 5 frames built clear down put the 4 frames in the center, and you have a nice colony and several pounds of surplus honey. R. L. HASKETT.

Tipton Co., Ind., June 29.

Very Little Honey.

There is very little honey from this (Riverside) County. I have 8 cases from 150 colonies. JOHN C. WILMS.

July 6, 1902.

Too Much Rain.

Rain, rain. Basswood is in bloom, but the weather is inauspicious. EUGENE SECOR.

Winnebago Co., Iowa, July 8.

A Discouraging Season.

I am sorry to say the prospects are very discouraging here. Bees have to be fed to keep them alive. I found 2 colonies to-day starving out. It is so wet and cold, and no white clover is in bloom yet. It looks as if we would have a very poor year. If the bees live there may be a fall flow from heartsease. I had only 11 swarms out of over 200 colonies. N. STAININGER.

Cedar Co., Iowa, June 28.

Poor Prospects in Southern Calif.

The prospects for honey are exceedingly poor. The sages are all dried up on the mountains, and an almost total absence of moisture from fogs or showers have about "done us up." Southern California will not be in it this year. J. M. HAMBAUGH.

San Diego Co., Calif., June 21.

Bees Starving—No Honey-Flow.

Bees are actually starving here. June was wet and cold, with no honey-flow at all. J. A. MCGOWAN.

Butler Co., Pa., July 2.

Bees Not Doing Much.

Bees are not doing much here. White clover was almost all killed by the drouth last summer, and there is not much bloom of any kind for the bees to gather honey from. Our only hope will be the fall honey crop. Last year, at this time (June 20), I had some colonies that had stored from 50 to 75 pounds.

Coffey Co., Kans. J. M. CHRISTIE.

A Very Poor Season.

This has been a very poor season in southwestern Wisconsin for the bee-business. Our bees wintered well, but it was very cold and windy, and the bees did not get any benefit from the soft maple, which we have in abundance.

It was rainy and cold all during the dandelion and fruit bloom, so it was worth very little to the bees. We all had to feed up to June 10, more or less. After that time the bees gathered enough to live on. June 17 I talked with two bee-men, one of whom had 40

colonies, and the other had 90; they said there was not a pound of surplus or new honey in a hive. My bees were the same.

We lost white and all other kinds of clover last year and through the winter. There is very little clover, and with so much cold weather and rain it is no good.

Our bees, in this section, are swarming to beat everything. I had several swarms the first part of June, with not over a half-pound of honey in the hive.

Basswood is heavily loaded, but we have so little of it, as there are so many stave factories, excelsior mills, etc., that have cleared it off. We hope for enough honey to carry our bees through into the next season.

Grant Co., Wis., June 27. L. G. BLAIR.

May Get Fall Crop.

The bees are not doing very much good here. I have had only one swarm up to date. Basswood was in bloom last week, but we have had an old-frashioned June freshet of three days' rain, and no prospects of clearing up very soon; this means lots of fall honey, if the weather should prove favorable.

White Co., Ind., June 30. A. WORTMAN.

Poorest Season So Far.

This has been the poorest season for bees, so far, that I ever experienced. My 34 colonies came through the winter on the summer stands without any loss, and were in fine condition, but they are now almost destitute of honey, and a very poor prospect of getting any soon. H. G. WYKOFF.

Warren Co., Iowa, June 30.

Half as Much as Last Year.

My first extracting, last year, was June 25; at this time there is very little honey above the brood-nest, but the bees are very strong. If the weather remains favorable we will get at least one-half as much honey as last year, which was 130 pounds per hive. Farther back in the mountains the crop will be very nearly as good as last yesr, or, in other words, about one-half of the county will produce little or no honey, while the other half will get a full crop for an ordinary year.

L. C. NORTHRUP.

San Diego Co., Calif., June 24.

Honey Outlook Very Poor.

The weather has been cold, rainy and cloudy for a month. Colonies that did not have much honey and a prolific queen overflowing with bees must be fed. I have fed 6 colonies during the last week that did not have an ounce of honey—something I have not done since I have kept bees.

Blossoms of white and red clover have no bees on them. The outlook is very poor, though basswood buds are plentiful, and will be opened soon, if we have a few warm days.

N. A. KLUCK.

Stephenson Co., Ill., June 28.

$9.25 to Cleveland, O. and Return $9.25

on July 16th and 17th, via Nickel Plate Road, good returning to and including July 22, 1902. Three through daily trains. City Ticket Office, 111 Adams St., Chicago. Write John Y. Calahan, Gen'l Agent, Chicago, for particulars.

33—29A1t

The Home-Made Greenhouse.—There is scarcely a lover of plants who has not felt the need of some place other than the ordinary window for plant-growing, a place secure from dust, dry air and excessive heat that form the greatest obstacles to success. Many plants unable to survive the winter in open grouud may be lifted and carried over in a dry cellar, well lighted; but many cellars are unsuited to the purpose, the extremes of furnace heat or overdampness, with poor ventilation, proving fatal to all but the hardiest plants. Suitable plant rooms are highly desirable, and the amateur will be aided in his efforts to provide such, by the illustrated article in the August DELINEATOR on simple forms of plant quarters, which may be made at a comparatively small expense. Address, The Butterick Publishing Co., Ltd., 7 to 77 W. 13th St., New York, N. Y.

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Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

A B C of Bee-Culture, by A. I. Root.—A cyclopedia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, bound in cloth. Price, in cloth, 50 cents; in paper, 30 cents.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cents.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Bienen-Kultur, by Thomas G. Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 7.—The honey market may be said to be on a vacation so far as actual business is concerned. Should the harvest of 1902 be practically a failure there will be no dearth of extracted honey, as there is more of it in storage than we have ever known at this season of the year. If the consumers are not too greatly impressed with the idea that the honey harvest is a failure this season it may be worked off at an advance in price. Beeswax is lower, yet sells well at 30 cents per pound.

R. A. BURNETT & Co.

KANSAS CITY, July 5.—Some new comb honey has arrived. We quote: New, 14@15c; old, 12@13c. Extracted, white, 6@6½c; amber, 5@6c. Beeswax, 25@30c. C. C. CLEMONS & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.

THE FRED W. MUTH Co.

ALBANY, N. Y., July 10.—Honey market not opened yet for this season, but we look for demand to begin in a couple weeks. No old crop in the way. Expect good demand and good prices for new crop, which is very light in this vicinity. H. R. WRIGHT.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

NEW YORK, July 7.—There is some fair demand for comb honey at 14c for strictly fancy white; 12@13c for No. 1, and 10@11c for amber. Extracted quiet at unchanging prices. Beeswax dull and declining at 29c.

HILDRETH & SEGELKEN.

CINCINNATI, July 7.—The shipments and offers on new comb honey are so little, besides the predictions for the yield of honey so uncertain, that I can give no figure for prices. Extracted is selling for the same price—Amber, in barrels, 5@5½c; alfalfa, 6@6½c; white clover, 6½c. Beeswax, 28c in cash.

C. H. W. WEBER.

SAN FRANCISCO, July 1.—White comb, 10@12 cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

While offerings are light of both comb and extracted, buyers are not numerous at extreme current rates, nor do they show disposition to operate in a wholesale way at prices now generally asked. Most dealers are doing little else at present than awaiting developments, and producers, as a rule, are not crowding honey to sale.

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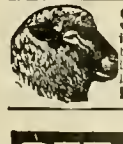

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National Bee-Keepers' Convention at Denver, Sept. 3-5, '02

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JULY 24, 1902.

FORTY-SECOND YEAR
No. 30.

WEEKLY

CHAS. DADANT.

Born—May 22, 1817. Died—July 16, 1902.

A STANDARD-BRED

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As the supply of these splendid Queens is limited, we prefer to use all of them as premiums for getting new subscribers. But if any one wishes to purchase them aside from the Bee Journal subscription, the prices are as follows: One Queen, 75c.; 3 Queens, $2.10; 6 Queens for $4.00.

We expect to be able to fill orders by return mail, or almost as promptly as that, so there will be no great delay at any rate.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JULY 24, 1902. No. 30.

Editorial.

DEATH OF CHAS. DADANT.

We were startled by receiving the following telegram the afternoon of July 16:

"Father died this morning at 11:30, after short illness. C. P. DADANT."

Bee-keepers everywhere will join with us in extending to the Dadant family sincerest sympathy in their bereavement.

We have had the pleasure of a personal acquaintance with Chas. Dadant for a number of years. It was his custom to spend a few weeks every fall in Wisconsin, and, passing through Chicago on his way, he called on us, and we thus enjoyed his friendship and acquaintance.

Mr. Dadant was one of the pioneers in bee-keeping in the United States, as all reading bee-keepers well know. Chas. Dadant & Son need no introduction wherever the literature of bee-culture is read, and that means in several countries and languages.

But we will let the departed Dadant himself tell something of his life, which he furnished to us nearly ten years ago, and which appeared in the American Bee Journal at that time. It is as follows:

I was born on May 22, 1817, in Vaux-sous-Aubigny, a French village of Champaign, near the confines of Burgundy. My father was a doctor of medicine. From the age of 6 to 17 I went to school, living with my grandfather, who was a locksmith in the city of Langres.

Then I entered as clerk in a wholesale dry-goods store, and ten years after I went into partnership with one of the owners of the store. We began successfully; we had earned some money when the French Revolution of 1848 came, followed by the Republic, which was destroyed by Napoleon III, and replaced by his Empire. For six years the trouble and the insecurity lasted, and determined us to quit the business. Then I succeeded to my father-in-law, who was a tanner, but bad luck continued to persecute me. The city of Langres, the ancient Audomatunum, which, several thousand years ago was the capital of a people named the "Lingones," is situated on a high mountain, which overlooks its vicinity nearly on everyside. Cæsar, and the other Roman emperors, at the time when the Roman Empire owned most of Western Europe, fortified Langres with strong walls, which were so well constructed that they are solid yet, after 2000 years. These walls affording a protection to the inhabitants, the city was densely peopled, and its commerce was facilitated by a quantity of good roads, laid with stones and cement, and directed to every point of the compass.

These Roman roads, as they are yet called, helped greatly the business of the city, which was very prosperous until the railroads came. Of course, these railroads refused to climb the high mountains, and built their depot two miles away, in the bottom of a deep valley. Then the city began to depopulate, and its buildings lost 90 percent of their value. Compelled to go elsewhere to get a living, I resolved to come to the United States.

It was 30 years ago I came, a poor man with a family. Unable to understand a word of English, I subscribed for a weekly paper, and began to translate it with the help of a pocket dictionary. But the greatest difficulty was the pronunciation. I was soon able to write so as to be understood, but my spoken English was not intelligible. The French language has very little accent; while the English has the accent on one syllable in each word, and the scholars themselves do not always agree on the syllable on which the accent ought to be placed. Then imagine the difficulty of a foreigner! A great many storekeepers were amazed to see me explain in writing what I wanted, when they had been unable to understand my language.

As I had already tried bee-keeping for pleasure in France, I began here with two colonies. What I knew of bees had satisfied me that a well-managed apiary would give enough profit to support a family, and the result proved that I was right.

Soon after I began to rear Italian queens. Being able to understand the Italian language, and having been elected an honorary member of the Italian society of bee-keepers, it was an easy matter for me to try the importation of bees. But the conditions indispensable to success were not yet known, so I lost some money in the undertaking. Then I went to Italy; but the trip was a failure. I had about resolved to quit the business of importing queens, when I began experimenting with Fiorini, and soon after all the queens arrived alive.

But the care of 400 colonies, with the comb foundation business, was then beginning to give us—my son and myself—as much work as we were able to do, so we resolved to quit the importing business.

We have since revised the book of our friend Langstroth, and published a French edition, which has had the honor of being translated into the Russian language.

I am now 76 years old, and I have enjoyed, so far, good health, thanks to the care of my wife and of our children and grandchildren living with us, *en famille*.

CHAS. DADANT.

Such is the story Mr. Dadant wrote for us, and we are glad to place it again before our readers at this time, for since its first appearance thousands of new subscribers have been added to our list.

We need add but little further at this time. Later we hope to give sketches and incidents of his life and death, as they may be furnished to us by his devoted son and many intimate friends. Suffice it to say now that those who knew Father Dadant best will agree with us that his was a noble, honorable, upright, consistent, moral life, and, in his death, bee-keeping has lost one of its most faithful devotees—one who ever labored for its greatest development and highest progress.

Quoting the Honey Market.—Some time ago we promised to publish a symposium on this subject, and in this week's issue we give the first part of it. We think it is very interesting reading.

We may be pardoned for reprinting Rip Van Winkle's first letter, and also our comment thereon, as by thus doing it places the whole matter before the reader, and avoids the necessity of referring away back to see just what was said on page 195.

Of course, the commission men and other honey-dealers do not know it all. But we must give them credit for honesty of purpose in the conduct of their business, and in what they have written in response to our request that they help enlighten Rip Van Winkle, as well as all others who are inter-

BIRTHPLACE OF CHAS. DADANT—VAUX-SOUS-AUBIGNY, FRANCE.

ested in the subject of correct market quotations on honey.

We hope that our readers will suspend judgment until they have read what all the market quoters have to say. We expect to complete it next week.

Use Soft Water for Rendering Wax.—This is a matter of considerable importance, as will be seen from the following by H. W. Brice, in the Bee-Keepers' Record:

In rendering wax in water containing lime or acids, either the cerotic acid or the myricine is dissolved out, and its composition becomes changed and forms a secondary product, as may be seen by the dirty-gray, spongy residue on the underside of a cake of wax after cooling. This residue has to be scraped away and wasted. Rain or distilled water should be used in the operation.

Blacks vs. Italians.—I venture to assert that a careful and unprejudiced examination will show things that will prove a decided surprise to many. I have in my apiaries some of the best strains of Italians to be obtained, also some pure blacks, and many shades of the crosses of the two races. According to the generally accepted view regarding Italians, such colonies should excel the others, but that has not proven to be the case. The black bees have bred up the fastest, have stored the most honey, and entered the supers most readily. Also, they have proved to be better tempered. The hybrids came next to the blacks in the possession of these virtues, and the Italians last. Such has been my experience this spring, and the contrast has been so marked that I have considered it worth recording.

The above by Arthur C. Miller, in the American Bee-Keeper, will, no doubt, be as he says, "a decided surprise to many." But does it prove that, as a rule, blacks are superior to Italians? Surely, all bee-keepers in this country are not deficient as observers who have testified to the superiority of Italians.

When Italians were new, it was charged that those who had them for sale had an ax to grind in recommending them. Now that Italians are common that can hardly be charged, especially against men who have no stock for sale, and are only interested in having the bees that will yield the best results.

It should not be forgotten, however, that in England and in Germany there are good men who prefer blacks to Italians. Are there better blacks across the water, or do conditions make the difference?

Weekly Budget.

SECRETARY D. W. WORKING, who is pushing for a big attendance at the Denver convention, wrote us on July 14:

"There is nothing new to tell you yet about the coming meeting. We are hoping that there will be a large attendance from the other side of the Mississippi. In this State we expect to stir up a good deal of interest, and have our people out in good force."

We think "the other side of the Mississippi" will be well represented. We hear almost daily of more bee-keepers that are expecting to go. It looks now as if the Denver meeting might be *almost* as large as was the National when it met in Chicago in 1900! Even such a crowd would surprise Denver! Of course, Chicago is accustomed to such things!!

MRS. CHAS. BECKER, of Sangamon Co., Ill., after an illness of more than five months, passed away on May 2, 1902. This was learned just last week. We wish to extend our sympathy to our bereaved brother and his daughter who remain to mourn the departure of a beloved wife and mother.

THE APIARY OF A. HENTHORN & SON is shown on this page. When sending the photograph, they wrote as follows:

We send the picture of our home apiary. There are 96 colonies in this yard. We use the old standard Gallup hives, and run for extracted honey alone. Our average for 1901 was 72 pounds per colony.

We run one out-yard of 40 colonies, the average being 85 pounds per colony from white clover and basswood. We run on the non-swarming plan of nuclei for increase, and kill the rest of the queens.

We have one colony that stored 40 pounds of red clover honey after the basswood flow was over last season.

Those trees seen in the picture are cherry-trees; we use them because they make fine shade, and are nice, clean trees to work around, and on account of the fruit. The large tree on the left of the picture is a hickory: it is full of nuts every year.

We winter our bees in a cellar under the dwelling-house. The temperature was about 52 degrees all winter, until lately (March 3) we have been having very warm weather for this time of the winter, and had to open the outside door and let fresh air in at night. We wintered the bees last winter in the same cellar with a loss of 2 colonies; the temperature was down near 50 degrees all winter.

A. HENTHORN & SON.

MR. H. H. HYDE, of Wilson Co., Tex., writes us that he is planning to attend the National convention in Denver in September. Say, you hustling Denverites, get ready for bee-keepers from everywhere. They're coming.

PROF. COOK'S "BEE-KEEPERS' GUIDE, or Manual of the Apiary," is thus kindly referred to by Editor Root, in Gleanings in Bee-Culture for July 1:

The new revision of the nineteenth thousand of the "Bee-Keepers' Guide, or Manual of the Apiary," by Prof. A. J. Cook, published by George W. York & Co., of Chicago, is now out. It has been most thoroughly revised, and is enlarged by the addition of about 80 pages and 75 engravings. I have read over in a hurried way several of the chapters, and they all seem to bear the brand of 1902, and all of it orthodox, at least from my point of view. So skillfully has the old matter been blended with the new, that one would never suspect the book had not been written from beginning to end this year. The scientific, as well as the practical, part has been gone over completely; and while the book has always been a standard, both in Europe and America, it is now "clear at the front in bee-keeping science and practice." I congratulate the publishers as well as the author.

P. D. JONES, of this State, hived 48 swarms on a single day recently; again in a few days he hived 47 swarms on one day. Mr. Jones must have the swarming kind of bees.

MR. E. S. LOVESY, president of the Utah Bee-Keepers' Association, expects to attend the Denver convention. He should take a large delegation with him from his Association.

HOME APIARY OF A. HENTHORN & SON, OF RICHLAND COUNTY, WISCONSIN.

Contributed Articles.

Quoting the Honey Market.

On page 195, of the March 27th copy of this journal, there appeared the following on the subject of quoting the honey market in the bee-papers :

I have been interested in the honey market of Chicago, as I have been a Chicago bee-keeper for two summers past, and the article on page 121, by B. A. Hadsell, is timely and largely to the point, as tending to explain the low price of honey to-day as compared with the prices of 20 years ago. The commission man has the honey-producers in his grip in this market, more especially when he is a buyer as well as a commission man. A buyer is always a "bear" in the market, and when he also gives quotations of prices for the supposed guidance of honey-producers, it is beyond human nature, however honest he may be in general, not to try to buy low, when it is almost absolutely certain that his quotations will go to nearly all possible shippers.

I am certain there is this tendency here in Chicago, for I have time and time again investigated prices on South Water Street, inquiring of dealers in honey, as a possible buyer, and invariably had prices quoted me one cent higher per pound on comb honey than the regular 'quotations" in the American Bee Journal.

Again, the prices quoted for Milwaukee, Wis., are almost invariably one cent per pound higher for comb honey of like grades than for Chicago. There seems no good reason why Milwaukee, located very much nearer the great basswood forests of the great honey-producing State of Wisconsin, should pay more than Chicago for the same grade of honey, unless the market reports are "fixed" to suit some one who is interested in buying honey low.

The bee-keepers of Cook Co., Ill., at least, ought to have organization and investigate just such things, and let the shippers honey know it, as I am trying to do. RIP VAN WINKLE.

Cook Co., Ill.

In reply to the foregoing we had this editorial comment to offer :

Rip Van Winkle should go into the honey-dealing business a while, for by so doing he would soon learn some things that he will scarcely be able to see in any other way. Suppose the commission man did publish quotations a cent or two per pound higher (at the price he gets for a few single cases), how soon would it be before he would have his store flooded with honey which would be sent to him because of his high quotations ? Then, of course, the market would drop, and the honey would have to be sold several cents below the quoted prices. How the shippers would howl then, when receiving their returns. That commission man would be called a fraud, a swindler, etc.

It is better to quote a cent lower rather than a cent above the market. If comb honey is quoted at 15 cents, and then sells at 16 cents, and a report is made at the latter price, no bee-keeper is going to kick. But quote the price at 16 cents, and then make returns at 15 cents (the best that could be obtained), and how high would the shipper kick ? Well, he'd likely say, "That commission man quoted high so as to get the honey into his hands, then sold it so as to get his commission."

Any "Rip Van Winkle" who goes along the street inquiring the price of honey is easily "sized up" by the commission man, who is up to his business. He (the commission man) can tell very quickly that "Rip" is only "nosing around," and doesn't mean to buy, in nine cases out of ten. We have often been such a "Rip" ourselves, and we felt the commission men of whom we inquired knew that we were simply out "inquiring."

But we would like to have those who quote the honey market in our columns also help answer Rip Van Winkle. If all of us try, we think he ought to get what he is after—or something else equally satisfactory.

In response to our request in the last paragraph above, we have received the following from some of those who quote the honey market for the American Bee Journal :

CAN ADD NOTHING TO OUR COMMENT.

EDITOR YORK :—Replying to yours, wishing our views as to quoting honey market, we would say your answer to Rip Van Winkle in the American Bee Journal of March 27, so fairly and squarely explains the matter that we can not add anything to it. Very respectfully,

BATTERSON & Co.,
Per N. D. B.

QUOTATIONS WILL NEVER BE ALIKE.

EDITOR YORK :—It is not to be expected that the market quotations are to be alike, not even in the same vicinity, as the different branches of business under different pressure are compelled to make different quotations to protect themselves.

The commission man will quote the article he sells at as low a price as he possibly can, so as to enable him to give his shipper better returns than he expected, and, therefore, securing for himself his shipper's future business.

On the contrary, the dealer will be governed by the supply and offerings, and stock he has on hand, also the demand and sale, to quote the highest and lowest sale he made to benefit his business.

I have made it all the time my practice to give the exact figures for "quotation" what I was able to sell for, and not prices that I would like to get. C. H. W. WEBER.

HONEY-DEALERS ARE THE PEOPLE.

EDITOR YORK :—We note Rip Van Winkle's article in reference to quoting the honey market, and we beg to say the commission men and the honey-dealers are directly responsible for the large demand there is for honey to-day. If left to the bee-keepers alone it would be impossible for them to find buyers and consumers for the vast amount of honey that is produced. Business is business, and a good business man is of necessity a good buyer. We ask here. Who is it that creates the demand for honey ? The bee-keepers, the bee-papers, the commission men, or the honey-dealers ? To be sure it is none other than the dealers. Their business is to buy and sell honey ; while it is to the credit of bee-keepers to produce the right kind of honey in salable shape.

Supply and demand regulate the price of all commodities, any fair-minded individual will acknowledge. Honey is governed also in like manner, and because Milwaukee markets will pay one cent per pound more than Chicago is no criterion for all honey and prices. Very frequently in one grocery you can see comb honey posted at 20 cents per pound, and in the next block priced at 18 cents, apparently the same kind ; this I have observed in Cincinnati, many times.

Rip Van Winkle is apparently looking from his selfish standpoint alone ; I would suggest a broader range. The dealer seeks the market for the consumption of his ware, while the producer yields the supply. Bee-papers, as a rule, reach only the producer ; the public in general is not concerned in bee-literature, market quotations, etc., therefore, it devolves upon the vender, in a great measure, to distribute the production ; and necessity regulates the price. Periodicals do not always give correct estimates of amount produced and consumed, and are at fault many times in giving the producer the wrong information as to yield and prospective price.

Rip Van Winkle should hold his peace until he has thoroughly gone over the territory and considered all points, conditions, etc. Yours truly,

THE FRED W. MUTH Co.
FRED W. MUTH, *Pres.*

QUOTE THREE GRADES OF PRICES.

EDITOR YORK :—The writer, in entering a store of one of the large seed-men of Ogden, Utah, who handles a great many car-loads of honey, was greeted with rather a cool reception, and found out immediately the cause of it was the damage that he felt our Philadelphia market quotations had done his market repeatedly, and the writer had impressed upon his mind very forcibly how much quotations could damage such large car-load shipments of the West, and on reaching Chicago found the whole subject of quotations was in general discussion.

We have always understood that the quotations in the bee-papers were for the small bee-keepers scattered throughout the country ; that is, parties who produce from one to five cases of comb honey and a few cases of extracted honey, in order for them to know what they might reasonably expect as returns if their honey was shipped to commission men in the various cities.

Now, then, if such a honey-shipper would ship to Philadelphia to-day to a commission man, a few cases of fancy white clover extracted honey, such commission man should get, if he sold it to a grocer, 9 cents per pound. Such a grocer would only buy one or two cans at a time.

On the other hand, should California or Utah ship to Philadelphia to-day a car-load of extracted honey in cases, the market price would be, in car-loads, 5½ cents. Now, the seed-man at once says that we quote the price of 9 cents, and if he shipped he would not get over 5½ cents. You can see the reasons are very clear. On the other hand, should we quote car-lot prices, we would want to give very correct what a shipper might expect spot cash for same. Now, then, if said shipper would ship a car-load of extracted honey to Philadelphia to-day, and would urge the receiver

to sell it out quick, 4⅞ to 5 cents might be all that would be realized on it.

Again, we have had repeated calls from a customer out of town, who saw quotations intended only in a wholesale way, and he thought that was the price at which he could buy a single can of it; he would send the money, which would have to be returned to him.

There are a great many things to be considered in quoting prices, and prices vary according to so many different circumstances. If a car is unloaded at a depot and carted into a store and held from 30 to 60 days, the cost of carting, storage and insurance would have to be added to the price over and above what the car could have been sold at spot cash at the depot and carted away by the purchaser.

The writer would suggest that a possible way out of this difficulty, which is a very serious one, would be to quote three grades of prices. 1st—car-lot prices. 2d—wholesale prices. 3d—retail prices. And then quote only for fancy or best grades of both extracted and comb honey, and let those who are looking for quotations make their own average of the lower grades.

We repeatedly say at the end of our quotations that we are producers of honey, and not dealers, and do not handle on commission. WM. A. SELSER.

(Concluded next week.)

Bisulphide of Carbon—Its Value to Bee-Keepers.

BY C. DAVENPORT.

The article by Prof. A. J. Cook, entitled, "CS " which appeared on page 390, I read with much interest. Before commencing to use this drug moth-worms were one of the most difficult problems I had to contend with, for they have always been very numerous here. I have had sets of combs, and even hives themselves, almost cut to pieces by moth-worms in cases where the bees deserted their hives, and it was not discovered until some time afterward. When comb honey is removed from the hive a close watch must be kept, for moth-worms are sure to develop on some of it, and if their depredations are not checked a large part of it will soon be ruined.

Some persons seem to think these moth-worms appear only on comb honey that contains more or less bee-bread, but I regret to say that this is far from being the case here. They are much more apt to appear on combs that contain a few cells of pollen, but I have had hundreds of sections of comb honey that did not contain a cell of bee-bread badly cut up and damaged by moth-larvæ.

A number of years ago I sold 2000 pounds of white clover comb honey to a large retail grocery concern in Minneapolis. The honey was shipped about the middle of August, by express. (I got a special rate, and went along with the shipment, as it had to be transferred twice, and I wanted to see that it was handled as it should be.) It was not crated, simply cased in 24-pound cases, two of which were fastened together. Not a comb was broken *en route*. The firm was much pleased with the honey, and contracted for more to be delivered later.

About three weeks after I returned home I received a letter from them, saying the honey was being all cut to pieces by worms, and that they would hold me fully responsible for not only the price of the honey, but for damages to them in loss of time, customers, and numerous other things, for, they said, they could prove the worms were in the honey when I delivered it; they had kept it in a place free from worms, and there were no other worms of that kind in the city.

I had been afraid the moth-worms might damage it before they were able to sell it all, for it was shipped soon after being removed from the hives, and had not been sulphured, sulphur being then the only remedy I knew of. It would have done no good, for the honey was free from worms at the time it was shipped, but contained moth-eggs, which developed into larvæ soon afterwards. The fumes of the sulphur have no effect whatever on these eggs, at least not what we can subject them to without discoloring the honey.

The fumes of bisulphide of carbon not only kill moth-worms, but utterly destroys the vitality of all eggs that the comb may contain. A good many seem to question whether it does kill the eggs as well as hatched larvæ. I know, from a large amount of actual experience, that it does.

Last year I sold to a large grocery house, in a near-by city, nearly 7000 pounds of honey. This firm had considerable experience with, and loss from, moth-worms developing in honey after they bought it, and on this account would not buy any very large amount at one time, although besides a large retail trade they had quite a jobbing trade from the Dakotas. Last season one of the firm was at my place to buy honey; if it were not for worms they could handle a large amount. He was very skeptical about my assertion, that the worms would not appear on it. In order to get him to buy the amount which he did, I had to get the bank in our town to guarantee him the full amount he paid for the honey, on all that the moth-worms appeared upon.

The reason I have mentioned this incident is on account of a curious, and possibly important, incident connected with it. This firm expected to need about 2000 pounds or more for their retail trade, and this amount I put up in "T" supers. The honey was all hauled to them by team, and by using supers it saved me the price on shipping-cases for this amount.

Last spring I went to that city to gather up a load of empty supers, cases and cans, and found that this firm still had considerable of the honey I sold to them. I helped take out what was left in the supers and pack it in boxes. While one of the firm and I were doing this he spoke about my honey keeping so much better than the other they had. He said that was why they had so much of mine left. They had bought a number of small lots from different bee-keepers around there, and towards spring it all commenced to granulate or candy in the comb, and they wanted to get rid of that first. I was unable to find a trace of granulation in any of that I sold them. Now, this honey I sold them was all subjected to the fumes of bisulphide of carbon for 3½ hours, or longer. Did this prevent granulation, or have anything to do with its not granulating? If I live I shall know in a year from now, or less, for this season I shall subject samples of both comb and extracted honey to these fumes and keep them over winter, besides similar lots that have not been treated.

Some may remember that I described how, last fall, I had subjected the winter stores of a number of colonies to these fumes in order to find out whether honey so treated was affected or rendered unfit for winter food. I have not space here to go over the matter, but in a former article I explained why it was very important for me to know whether honey so treated was safe for winter food, and I am glad to say that it is. The colonies on these stores wintered in good shape, and this proves, also, I believe, that honey so treated is perfectly wholesome, for if trace enough of these deadly fumes remained in to make it injurious to health, it would surely have affected the bees during the long confinement of winter.

Before closing I will say a few words about the manner of using this drug. I have described this before, but I still see it recommended by many to pile up hive-bodies containing combs, and treat them by putting some bisulphide in the upper stories. Such a method may kill moth-worms and eggs all right, or it may have no effect on them—it all depends on how tight the bottom cover and hive-bodies fit, how much of the drug is used, and the length of time the combs are exposed to the fumes. I have a tight box made out of matched lumber that is large enough so that a number of supers of section honey or hive-bodies containing combs can be placed in and treated at one time. When this box is closed up it is nearly air-tight, and I know pretty nearly to a minute how long it takes to kill moth-worms in it, but whether the vitality of the eggs are destroyed as soon as the worms themselves, I do not know. For this reason I have always treated the combs much longer than was necessary to kill the worms. Southern Minnesota.

No. 8.—Rearing Long-Lived Queens and Bee.

BY DR. E. GALLUP.

A few years ago I received a circular and price-list from a queen-breeder "away down South in Dixie," which read something like this; "We have 300 colonies and our queens are reared in those strong colonies under the swarming or superseding impulse." And this is about the way I wrote to him:

"DEAR SIR:—Enclosed find money order for and untested queen, as I like the ring of your circular."

In due time I received a queen, and she turned out to be a good one in every respect. I ordered others from him and received satisfaction, that is, they were as good the second

season as the first. I then sold out and did not keep track of them any further.

In article No.1, page 342, I left out something of importance. After saying, "we should not be disappointed," I should have added, "providing we succeed in getting them reared under the superseding or swarming impulse, one can rear very fair queens in a very strong colony from eggs or larvæ from worker-cells. But they will lack the missing link, therefore they fail the second season." I was in the same boat with the rest of the queen-breeders, but I jumped out and allowed my bees to swarm naturally, was not satisfied with forced or unnatural queens, and am not yet. They are only a make-shift for the bees in case of emergency, or until they can do better. I cannot see the propriety of confining a queen that will fully occupy 16 Langstroth combs to an 8 comb or frame hive. Some say if you breed her up to her full capacity she will fail so much the sooner, but I have not found it so, where the queens are properly reared.

With your degenerate queens I think possibly it may be so, but I am not positive, as they fail the second season. Why need we care, as we do not want them anyhow? A large proportion fail the first season, especially the first winter. Now we will suppose you start in on the fad of rearing extra-yellow bees, extra-golden-colored, extra-five-banders, Adels, albinos, etc. You rear them by the hundreds, all on the nucleus plan, as I call it; and you keep it up for a good many generations. What kind of queens did you finally send out? Why, some queens that will not lay an egg after they are received, some that only occupy a piece of comb as large as your hand, some that will occupy 2, 3 or perhaps 4 combs, in a scattering manner; that is, all among the brood there are cells filled with pollen or honey, no regularity about her laying at all, and if there comes a flush of honey-gathering we will find every cell filled with honey. The queen is so slow about her laying that the bees keep ahead of her. We have tried to remedy this by extracting, putting in foundation, and even empty frames, but it was no go. Then by the first of March in all these colonies, even the best of them, the bees have dwindled until the colonies cannot be brought up to take advantage of the orange-blossom honey, which this season was extra-fine here.

The queens are short on laying, there workers have no longevity, etc.; finally, they are short on every good quality.

Now, I have not exaggerated the facts one particle; in fact, it is rather a hard matter to picture the facts as bad as they are.

Do naturally-reared queens get driven out of their brood-nest in the above manner? Do their bees die off with old age, and leave the queen destitute of subjects before spring? Why, the queen is in a condition to compel the bees to take possession of the super and store orange-blossom honey. Orange blossoming commences here the first of March, and continues up to the 1st or 15th of June. While in bloom the whole atmosphere is scented with perfume, which accounts for the hundreds of tramp swarms flockng into the vicinity of orange-orchards this season; outside there was nothing for them to gather.

By the way, I was up to the orange-packing house one day when they had just loaded a car, and a swarm flew inside, and the agent closed up the car; the engine hooked on, and they started on the road for Chicago.

The valley here would be an ideal place to rear queens. If it were not for the difficulty of getting them purely mated, one could rear the very best of queens for business. The first good yield is orange-blossom, the next is alfalfa, then comes the Lima beans, all three extra-good, with any quantity of other blossoms switched in between. One hundred acres of alfalfa in blossom now for seed, two miles south. June 18, Italians storing, but blacks not quite holding their own.

The very best conditions for rearing first-class queens are at natural swarming time. The bees are active, and keep a loud hum at night while evaporating the nectar they gather through the day, and there is a moist heat in the hive, instead of dry. Moisture and heat are promotive of growth—why not in bees as well as vegetables? Of course we can stimulate with diluted sweet to promote natural swarming, but we can hardly come up to the natural gathering. When bees are gathering stores they manufacture a larger amount of electricity or magnetism, which is life itself. This is all lacking in your small nucleus. Therefore, do not transfer your cells as soon as sealed to a nucleus; keep them in the strong colony as long as possible. This accounts for the fact that queens reared in extraordinarily large hives and extra-strong colonies are so long-lived, extra prolific, and have such extra vitality, and rear extra-long-lived workers. On the other hand, an opposite extreme accounts for the fact that by rearing our queens in such an unnatural condition, and contrary to nature, we have deteriorated or degenerated our queens and their progeny to the very lowest stage of vitality, longevity, productiveness, etc. Who knows but many of our new diseases of bees are generated through this low type of vitality, caused by bad breeding?

A number of years ago Mr. Aaron Benedict, of Ohio, sent out a circular, and advertised extensively that he was going to supply the demand, and warrant his queens to be purely mated, etc. He moved on Kelly's Island in Lake Erie, with an imported queen and about 100 small nucleus boxes stocked with bees, and went into the business on a wholesale plan, but he made an entire failure, and published in the American Bee Journal that his queen was not pure, the queens reared from her were as black as crows, etc. You can readily see that he failed on account of the worst kind of management. The climate was cold and windy; everything about the management was contrary to nature. I wrote to him and told him that he was the one to blame, and he afterward acknowledged that the queen turned out all right.

When I first began the nucleus plan I reared them small, inferior, and as Mr. Benedict said, as black as crows, but I jumped out of that boat long ago.

Well, I think I would better submit the above argument to the jury. Now, gentlemen of the jury, what are you going to do about it? Let us hear your side of the story.

Orange Co., Calif.

Convention Proceedings.

The Colorado State Bee-Keepers' Association.

Its Moral, Social, Scientific, Business and Financial Interests.

Read at the Convention held in Denver, in November, 1901.

BY R. C. AIKIN.

Every man owes to every other man duties. The greater part of the things we know, and the blessings and privileges we enjoy, are obtained from others. There is a great debt hanging upon us—a debt we owe to others because by and through them we are made to enjoy many things. We have government, the comforts and enjoyments of inventions, business relations, and all social privileges. Not only because of being recipients from others, but as well because of divine commands, do we have obligations upon us to do for others. Cain said to God, "Am I my brother's keeper?" and at the same time he had but recently proved by his act of murder that he at least was *trying* to be his brother's keeper, when he forcibly came between him and the enjoyments and privileges of life. If men are to live in social relations, then they *must*, of *necessity*, aid and foster each other's interests. A pauper is no help to the community in general, therefore we must not make paupers of our brethren. Neither are the vicious, the immoral, and criminally inclined, a help to you and me or to the social compact; hence, to make a brother such is to injure ourselves. In no way can we so surely protect and promote our own interests as by promoting the interests of our brethren. To shirk or avoid the duties we owe to each other is to injure self more than him toward whom we fail to perform obligations.

It follows, then, that we as brethren and members of this Association, should strive to build up each other in every moral relation. Morality pertains to our duties to one another—of man to man. If a brother is weak, strengthen him. If he is down, help him up. Let not a member of this Association do anything that is against the interests of a brother. We can rejoice that in all the history of our Association there has never been anything degrading in its conduct, though we may have come short of our whole duty, not doing all we might have done. Members have not always been as brotherly as they should be—it is human to err; but, with all our weakness there has been a spirit of brotherly love that surely must have made

better men and women of all who come under the society's influence.

THE SOCIAL SIDE.

I feel that I speak the sentiment of every member when I say that from year to year I look forward to our conventions with a joyous anticipation. I am glad to be here to-day, to meet with you and grasp the hand in a brotherly greeting. I rejoice to be able to give, as well as receive, the enjoyments that come to us when we meet after months of separation. I have labored with many of you for years working for the interests of each other, and to-day a blow given to you would hurt me perhaps as much as you. Because of longer acquaintance and closer intimacy in our work, some of us seem bound by a closer bond of love and sympathy; and, brethren, to meet in these annual gatherings, to labor together for the common good and upbuilding of all will knit us into a richer, nobler, and better life. Our Association is not all hard business; there is a social side that we do exceedingly well to cultivate, and I shall be happy indeed if I may be able to help you all to a better and more full social life. May I not be disappointed in realizing in each countenance, and in every word and act, that hearty good-will and enjoyment that is ours to have if we but will it.

SCIENTIFIC RESEARCH.

Our constitution says of this Association, "Its object shall be the promotion of apiculture in all its interests." That is short, but broad and comprehensive. As indicated hereinbefore, we can not escape responsibilities to others, nor can we honestly engage in our pursuit without helping others. I know, brethren, that some of you will say this is not sound doctrine, that there are too many in our ranks now; but a full investigation will prove to you that I state no false doctrine when I say that apiculture is *not* overdone. I will repeat and emphasize that an honest and intelligent conduct of apiculture by not only those now in our ranks, but by others who may see fit to enter the business, can not, and will not of itself, injure us.

However, admitting and believing the foregoing to be true, it makes my heart sad to see many people rushing into apiculture without a knowledge of the first principles of scientific bee-keeping. I will plainly say it is not honesty to self, nor to those already in the business, for any one to put money and time into the bee and honey business not knowing how properly to handle it to meet the requirements of the times and conditions. Look at the nice, fancy honey in our markets, and you see the results of science. Is it far amiss to say that science is Nature comprehended? An intelligent application of the laws of Nature in obtaining results is applied science. It is, then, self-evident that one should, before becoming possessed of much of a stock of bees, or entering the pursuit as a business, have gained a reasonable knowledge of the science of apiculture. Note, I do not say he shall be an expert in the science, but have a reasonable knowledge of it—none of us know it all.

If, then, we are all students in this science, it becomes one of the duties of this Association to make scientific research, but especially to add to each other's knowledge by an interchange of thought and experiences. By so doing we become a mutual help, we spread knowledge, and help each other to better produce and market, and that which betters or puts the business on a higher plane helps all. I do rejoice in the fact that the Colorado State Bee-Keepers' Association has stood well up to her privileges and duties in the line of science. There has been in our annual meetings an intense interest by the members in bringing out a true knowledge of the laws governing the bee and its labors, the most scientific application obtainable. Except in rare cases the spirit of helpfulness has been displayed, and in a degree not excelled by any similar association.

Remember, however, that having reached these heights, to neglect our opportunity to push forward and protect our increasing numbers and foster that which we have built up will be a very great wrong to ourselves and to the pursuit in general. This Association has not only fostered and very materially aided in a spread of scientific knowledge, but it has in no small degree protected its members and others in their

BUSINESS INTERESTS.

This is shown by the obtaining of legislation favorable to the industry; by the obtaining, year by year, lower prices on supplies used by us, and by advertising our product, and in many ways fostering the industry. In this connection I will call your attention to the fact that after years of effort we have at last obtained a show-case in which to display apiarian products in the State House, where so much is already on exhibition showing other resources of the State, and it is now our duty to make a proper and creditable display, of which we shall not be ashamed, and which shall do justice to our rapidly growing industry.

There was a time when apiculture in Colorado was but an infant, when the product of the bee did not begin to meet the home demand; while to-day our home needs are not only supplied, but a large export trade has sprung up to take our surplus. Our people consume immense quantities of honey that is not excelled in quality in any State, and we send hundreds of tons to other States. And, brethren, the very fact that we must export is a *very*, VERY great reason why we must continue to work in harmony, co-operate and unite in our efforts. Co-operation has been one of the outgrowths of the work of this Association, and to relinquish this work in the least we can not afford, we *must* go on. To stop or go back means a death-blow to the business and financial interests of very many apiarists in Colorado. Yea, more than this, the pursuit in other States would suffer injury with us. Cut off your hand, your foot, or any member of your body, and you injure the whole body. Let this Association, or the Colorado Honey-Producers' Association, or any of the co-operative interests of the State fail, and our business in Colorado, as well as outside interests, will surely suffer.

There are many apiarists in the State who have never been to a single one of our conventions, yet much good comes to such because of the work and influence of the organization. The absent ones miss the social contact, the side discussions that we have between sessions at hotels, restaurants, and wherever two or more of us meet, but they do reap something from the published reports, and in the general moral influences that can not be enumerated. There is not an apiarist of any consequence in the State who has not received directly or indirectly more benefit from our organized and co-operative work than the annual membership fees. So closely connected and sympathetic is the whole social compact as one body, that these influences are felt in many ways and places of which those affected are entirely unconscious of the influence. Brethren, let not your interest flag; be firm in your faith and interest in your own and others' welfare. Be not deceived with the selfish and greedy methods commonly practiced, they partake much of unwisdom and anarchy. Scorn all methods and practices that tear down others, remembering that to build up self at a sacrifice of others is a sin that will surely react, it will prove a boomerang, coming back to bring you sorrow. Let your motto be, "The greatest good to the greatest number." This is wisdom in a nutshell.

And to the general public a few words: We are glad to have you with us—we be brethren. What I have said to our bee-brethren applies to you; we all have an influence upon one another, we can not escape it, no matter how hard we try. Are you a merchant? Then if we prosper you reap a benefit in our increased ability to purchase your goods. Are your interests in railroads? We pay you freights on supplies shipped in, on our products sent out, and passenger traffic to and from these conventions, and in other ways. If you are a farmer do not worry because our bees feed upon your alfalfa; they fertilize the bloom by the distribution of pollen, thereby increasing your seed crop.

And to the fruit-growers I also have a word: If it were not for insects visiting the blossoms of nearly all kinds of fruit, where would be your fruitage? The bee is the most important of all insects in transmitting pollen from bloom to bloom for its fertilization, and you can not much better do without the bee than can we do without your bloom. I have a neighbor who has said that the honey my bees gathered was so much stolen from my neighbors. Let me tell you that it is a common belief that he who so charges me with theft is himself a thief, and enjoys (or at least possesses) plunder. No, no, my friends; there is altogether too much jealousy, too much selfishness, too much greed. Jealousy and selfishness tend to poverty and ruin; but a spirit of good-will and kind liberality will come back to be with us, but in a way that causes rejoicing and love, a spirit of peace and joy.

In conclusion, I want to say again to all, "We be brethren." Our prosperity is yours, and yours is ours. We can not afford to fight and antagonize; we must harmonize. If you believe otherwise, I will just point you to the former condition of this country when inhabited by the selfish and cruel Indian, contrasted with the present. Then, no progress, no love and happiness, nothing that helped up; now,

under co-operation and mutual help we grow in wealth and luxury, in peace and wonderful attainments. Brethren, I warn and exhort you, for the sake of all that is good and just, curb the spirit of greed and selfishness, and work for the greatest good to the greatest number. It is the true road to prosperity, the only safe, right, and commendable way. Larimer Co., Colo.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

LONG-LIVED QUEENS AND BEES.

Lengthening the lives of our bees won't shorten their tongues or their tails, eh? I guess that's so, Dr. Gallup. And another thing you hint at is probably so: If we can add an average of even two days to bee-life, that extra time will not have to be divided between indoor and outdoor life, but will be all honey-gathering time. As to long-lived queens producing long-lived workers, that's very possible—and especially possible that queens such as are superseded in one year may produce short-lived workers. But all that is in urgent need of some more verifying. To shout "Long-Lived Bees!!" when there is nothing back of it but desire to sell queens, and to shout, "Long-Tongued Bees!!" in the same unproven but thrifty way—what's the difference? So, Doctor, I entreat *not* to have either made exactly a fad. Both far too important. Page 374.

SWARMING AND SUPERING.

And he didn't even tell the fellow how to prevent the first and most provoking item (bees boomed and forced for the greatest number of swarms refusing to swarm at all), so I guess we have here another chapter from the big book of what none of us know yet. He's level-headed in saying to put on the supers betimes; for then, if the anticipated swarms fail to come, only *part* of the honey crop will be lost. Doolittle, page 375.

TELEGONY.

And so it's Telegony. Glad I know now what it is. We need some such word so badly that it will not be so hard to make us remember and use it—and so, happily, it won't superinduce any more "bug" and "worm" unpleasantness between us and the scientific folk.

Believed in by many of the very highest authorities. Apparently proved by some striking cases. Doubted, perhaps doubted increasingly, because divers and sundry extensive and careful efforts to produce it fail so utterly. The influence *must* be small, and one of the strong evidences on the books provokes doubt because it seems to show *great* influence. The horse kind furnishes a great share of the evidence, and very young colts often show faint stripes without any Telegony. Very distant Atavism it seems to be. And so, and so, and so another fine case of nobody knows yet, and believe just what you like—about the drones from mismated mothers being slightly impure. Pages 375, 376.

BOGUS FLOWERS.

C. C. Parsons, page 377, is wrong in calling the showy part of the dogwood blossom a "calyx." The calyx is a part of a true flower, while the flaunting imitation referred to is not one of the essential floral parts at all, but an "involucre" of whitened leaves—technically called "bracts." Queer that we should have bogus flowers in Nature as well as genuine ones. The sunflower is also a bogus flower, of a somewhat different sort, many real flowers so arranged as to simulate a still larger flower which is not real.

THAT CORNCOB FEEDER.

The bunch-of-corncobs bee-feeder, page 380, I should lay to give tolerable satisfaction *for a while*—an indefinite while—until it gets soaked and sour once. Perhaps waste some of the feed by soaking before that time.

A POINT IN QUEEN-INTRODUCTION.

The main queen-introduction point which Pridgen furnishes, page 381, is not by any means universally familiar. Introduce in a bran new cage, and first scent it by keeping the old queen in it for an hour. To add to the scent, and also to secure other good ends, put in a new escort of her future subjects. I think this likely to be valuable. Very likely we do not consider enough the provocative scents bees get in the mails. Rules ought to work both ways. Bees are undeniably liable to kill their own queen if caged an hour where she gets a provocative scent: why should they not then accept an alien when she comes with the right scent? The main rub is, I suspect, that she has an individual scent which, while it may be overlaid somewhat, can not be entirely gotten rid of. Colony must take her scent, she can not take theirs, except partially and temporarily.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Dragging Out Brood.

1. Why do my bees drag their brood out of the hive? I first noticed it in a nucleus to which I had given frames of brood and bees, giving them an Italian queen, and thought perhaps it might be owing to mismanagement of my own in some way; but I find this morning (July 2) it is going on in all of my colonies. The brood is fully developed, can crawl about, and upon my attempt to replace them in the hives it is either lugged out again by the bees or come out themselves, seemingly bent upon staying anywhere but in the hives.

As the weather has turned quite cool and cloudy, with a chilling wind blowing, the young bees are dying by the hundreds from exposure. The trouble affects the strong as well as the weak colonies, and all are perfectly free from moths. I am at a loss to account for it.

The honey-flow is on the wane in my locality, but about 4 miles from here at the apiary of an acquaintance it is about at its height, but he is having the same trouble, so it cannot be from lack of stores. CALIFORNIA.

ANSWER.—I confess I do not understand the case. You speak of brood being dragged out, but again say that it is fully developed and can crawl about, so it seems it is bees rather than brood. It is just possible that the trouble may be paralysis, in which case you will see the diseased bees making a tremulous movement of the wings, some of them being black and shiny, and other bees are inclined to worry them much as they do when a strange bee is caught in the hive. If it is paralysis, there is no certain cure known. There is also the possibility of poisoning.

A Swarming Experience.

I have just had an experience with bees that I can't find duplicated in any of the books and papers, and I thought you might be interested or perhaps had had a like experience.

One very full colony had several queen-cells two weeks ago when I clipped their queen, and I have been expecting them to swarm, but they did a little work in the super and then loafed. I ventilated the hive well but they would come out and cluster on the currant bushes, that is, about $\frac{1}{3}$ of the colony, and one night they stayed out so late, and I saw it was going to storm so I put them back into the hive. Next day they came out again and went into an empty hive and went to work like nailers. On opening the old hive yesterday, I found plenty of capped brood but no eggs or unsealed brood, and 12 queen-cells, one of them evidently just opened, but on account of so many bees (for I could hardly miss the loafers that had gone into the other hive) no queen was to be seen.

I gave the loafers a frame of capped brood and 2 queen-cells, and cutting 2 more out of the old hive I found a queen just ready to come out, so I gave her to the loafers, and they have 5 or 6 brood-frames drawn out from foundation, and are also working in the supers.

Now, as I said before, this is out of line with anything I ever heard of or read about, and I would like to know whether you have ever had bees come out and loaf away from the hive entirely, and then hide themselves. They have actually put in 3 or 4 pounds of honey already, and were 2 days without a queen. I had hoped the old colony would swarm, and then I would have put them all back together, but I concluded to give them a queen, as I had a good chance to do so, and call them a colony, for there are enough left in the old hive to make a good, strong colony.

I had another colony swarm without a queen, but after loafing out all afternoon they went back. MINNESOTA.

ANSWER.—If I understand the matter rightly, the unusual thing in the case is that that a smaller number than usual of the bees came out with the swarm. Why that was I don't know, and I don't know that their is any rule determining the number of bees that should issue with a swarm. Probably matters occurred a little after this fashion: When you found queen-cells started the bees were preparing to swarm. About the time the cells were capped the bees considered the matter of swarming and did some loafing—it is a common thing for bees to do more or less loafing a day or two before swarming. Then the bees swarmed, although not so many bees as you expected issued, and as the clipped queen could not go with them they returned to the hive, repeating the swarming, and probably staying out a little longer each time. Then when the first young queen emerged and was strong enough to fly, the swarm issued with her and went into the empty hive. The cells and the young queen that you gave to "the loafers" did no good, as a young queen was already with them or they would not be working like nailers but would have returned to the old hive. (By the way, do you think it fair to continue to call them "loafers" after they "went to work like nailers?") You found no eggs or unsealed brood in the old hive, because the old queen was lost when she swarmed out or was later put out of the way. It is just a little to be feared that you meddled too much by so freely giving cells to the "loafers," for if you left neither virgin queen nor queen-cell in the old hive you may count the chances are in favor of a queenless colony. Under the same circumstances you may expect a repetition of the program, except that usually more than a third of the bees will issue with the swarm.

A Beginner's Report on Queens.

I have just been through the hives, the ones I bought queens for. In one I found a quantity of brood, and what I take to be eggs. These, however, are not lying on the bottom of the cell, but are stuck half way up the back of the cell. Are they eggs?

In the second I find more bees than there were before, but no sign of young brood. There is a little brood which I think is dead, being old stuff laid by a former queen that died. I gave them a frame of brood from another hive and this may account for the increase. The dead brood is in a frame near the side, and all the center frames are filled with honey. Bees are working well, but no sign of queen, eggs or young brood. I wish I had an expert here to look at them for five minutes.

The third colony is dwindling—no queen, no brood. I saw the queen in this hive 4 or 5 days after she was put in, but cannot find her now; I feel sure that she is dead. I will give them a second frame of brood to-morrow. The three queens were put in 14 days ago, so there ought to be brood now. I wish you could give me a hint or a clipping.

BRITISH COLUMBIA.

ANSWER.—Those are eggs that you found on the sides of the cells. It sometimes happens that a queen lays an egg in that way while in general she places her eggs all right. I once had an imported queen which for a time laid all her eggs in that objectionable way, and afterward laid them properly. It is likely that rough handling in the mails may have something to do with the matter. It is to be feared that no queen is in the second or third hive, although it is barely possible that there may be one. Sometimes a queen will not lay for a week after being introduced, and if the weather has been very bad it might be longer. If the weather has been as bad during the last half of June as it has been here, it is not to be wondered that the queens are not kindly received, especially after being roughly handled in the mails. I had a fine queen killed by strange bees in circumstances in which heretofore there never had been any loss. That was two weeks ago, but if it had occured during the present hot weather there would have been no loss.

There seems something wrong in one colony that I can hardly understand. The bees have allowed the brood in that comb to die when there seemed to have been no other brood in the hive. It looks at least as if the colony must have been very weak.

The first-named queen will likely put her eggs in the bottom of the cell after she is fairly settled down. I have, however, a little fear that there is no queen in the hive, as you say nothing of seeing her, which leaves the suspicion that there may be laying workers in the case, for when they have only worker-comb they sometimes lay eggs on the sides of the cells, although at other times they are placed all right. By this time the brood will be sealed, and if sealing is flat it is work of a queen. If, however it is raised, so that it presents the appearance ot a lot of little marbles, you have laying workers, and will do well to break up the colony and distribute the combs among other colonies.

Wants Honey, Not Increase—Supers from Foul-Broody Colonies.

The greatest problem confronting me in bee-keeping is how to produce the greatest amount of honey with what bees I have—some 25 or 30 colonies. When I get the 9 frames full of brood, and the super of 30 pounds ready to cap, or if I tier up to 60, and the 9 brood-frames full, as G. M. Doolittle recommends, out comes a swarm, and it is all spoiled. Now, then, can I at that stage, when the hive is full of bees, take 4 frames of brood out of the center of the brood-nest and put in frames with starters, and keep my bees at home and at work successfully?

2. Will sections or supers that have been on foul-broody colonies be safe to put in with a healthy colony, when they have not drawn out the foundation, and have been exposed to the air for some time? INDIANA.

ANSWERS.—1. Your problem is the great problem with a great many, how to produce comb honey without the interference of swarming. Taking away all brood and leaving the colony on foundation or starters will effectually stop the swarming foolishness, and taking away four frames of brood will answer sometimes, and sometimes it will not.

2. The fact that so good an authority as Wm. McEvoy says it is safe to use hives that have been occupied by foulbroody colonies makes it seem that it ought to be equally safe to use supers and sections, if no drop of honey has ever been in the sections.

Fastening Queen Below on Foundation.

I will give the desired report of my efforts this year. As mentioned in my previous letter, in building up my one-story hives to "double deckers"—I work for extracted honey and run hives 2 or 3 stories, using full-sized hives for all stories—I took brood and bees from one hive, and placed another, with queen-excluder between, leaving the old queens and two frames of hatching brood, on the old stands, filling up with empty frames and dummies. The hatching brood and returning bees make good nuclei, and immediately commenced building worker-comb, and are now fairly good colonies for wintering. But unless the sumac yields a good fall flow, feeding may be necessary. I think if foundation had been used I might have been able to get better results. I am so well pleased with this method that I shall practice it next year. By taking brood from the hybrid queens, it entirely prevented rearing impure drones. The colonies topped out with brood and bees, went to work at once as though they had always been one family, and stored more honey than those that had two stories during the winter. The season being a "record-breaker" for not producing honey, the two-story colonies did not build up fast enough in the spring to be ready for a honey harvest, if there had been one. I extracted a little from those built up strong, but I wish I had not, as I may have to feed it all back.

After reading your advice to "California," I tried 2 more colonies that way. Not having foundation, I put one empty comb and empty frames below, and confined the queen on them with excluder and put the brood on top. The bees built queen-cells above, but did not build comb below. I do not think the queen "sulked," I think it was the "sulky bees."

In the case of the "shook" swarms, they have done just as well as natural swarms, but not taking bees from them the brood alone would not build up the other colonies as quickly as the other way. CALIFORNIA.

ANSWER.—I thank you for the further trial of fastening the queen on foundation in a lower story, and it seems to be thoroughly settled that the plan is not a success with you. Of course you are right in using the plans that are successful, and I think your plans will be generally successful, as others have used them with success.

You do not say specifically just what you do with the brood when you shake off all the bees, except that you put it over other colonies. Do you put all the brood over one colony, or do you give it to more than one colony? It has been claimed that when it has all been put over one colony, that colony with its double load of brood would not afterward swarm. How has that been in your experience? Another thing: When all the brood is taken from a colony, leaving empty frames or foundation, does such colony never swarm out?

Using a Mothy Hive.

Did you ever have a colony thrive in a hive which has been cleaned of webs, moths, etc. MICHIGAN.

ANSWER.—Don't you think you're pretty hard on me to ask a question that will bring out whether I have been so very careless as to allow combs to be filled with "webs, moths, etc.?" Well, since you insist upon it, I may as well own that I have had all degrees from the mildest to the severest cases. If you mean did I ever have a colony thrive in a hive in which the colony had allowed the moth to get the upperhand so that most of the combs were filled with webs and cocoons, I must answer no. If you mean did I ever have a colony thrive in a hive that was given to them in that condition, yes. Take a very bad case, only that some parts of the comb are still left, dig out the worst bunches of webs, place the hive under or over a strong colony, and see how nicely they will clean it out so as to be habitable. Even a swarm put upon wormy combs, if the case is not too bad, will make things all right. If the moth has made too much headway the swarm will be likely to evacuate.

Queenless Colony.

I have a queenless colony, and I am fearful of losing them; they are quite yellow or a hybrid strain, I should judge; they have been queenless for 4 weeks. I got them out of a bee-tree, and there is where I lost the queen. I put in a frame of larvæ but they did not build a queen-cell on the frame I put in, but on another frame. Do they transfer larvæ themselves, or is it on an old cell that they built out of the brood that I put in the frame when I felled the tree? It seems to me that it ought to be hatched out before this time. I put the frame in about a week ago to supply themselves with a young queen, and when I looked a week later I found this queen-cell started on another frame, so I am puzzled to know what to do about it. WASHINGTON.

ANSWER.—It is not likely that the bees transferred a larva, and there would be nothing strange in their starting a queen-cell from brood taken from the bee-tree. But as the cell has not yet hatched out four weeks after the loss of the queen, you may count that the queen in the cell is dead. Having had brood given them at two different times, it is not impossible that a young queen may be in the hive (a queen-cell is sometimes so inconspicuous as to be missed), and in that case any queen you give them will almost certainly be killed, so look out. Before giving them a queen it will be well to give them frames of brood to see if they start cells. If they start none they have a queen.

Selling Honey—Having Bee-Hives all Alike—Electric Hive-Heater.

1. Enclosed I send you an account of sale, and may the bee-papers find and advertise a honey-dealer that can give higher prices. Bees increase here very fast, about 300 to 1000 percent per year, but hardly any sales for queens or colonies of bees.

2. I think it would be an advantage, or desirable, to have the inside of the bee-hives all alike. I have some Langstroth-Hoffman frames that where the top-bar rests on the tin rabbets some of them are thicker than others, and the one above smaller. The bees glue them together and kill the bees between them. Bee-keepers should agree on a certain size frame and a manufacturer that makes them, otherwise bee-keepers should refuse to buy them.

3. I think with the Electric Heater virgin queens and drones can be made to come out. Glass and tar-paper work about as well in the sunshine. CALIFORNIA.

ANSWERS.—1. The account of sale dated June 27 shows that the honey was sold at 3¾ cents, certainly a discouraging price if the honey was of prime quality, as to which no mention is made. The advertising columns of the bee-papers are always open for placing of advertisements of reputable dealers. That is about all that ought to be asked of them.

2. You are quite right. Having two dimensions such as you mention is an unmitigated nuisance. There is more or less uniformity among the leading manufacturers, and where there is fear of undesirable variation it is only the right thing for the man who orders to stipulate as to dimensions, and then refuse the goods if they are not of the desired dimensions. The difficulty in such cases is that there is no particular tribunal to settle just what dimensions should be used, and it is quite possible that manufacturers would be glad of there being some authority to tell them just what dimensions should be used. Every one, however, has the right in any and every case to order explicitly just what he wants, whether it be in accord or not with that which is most in vogue. Only in most cases it will cost a little more for goods that are not standard.

3. I suppose your idea is to excite the queen and drones to fly earlier in the day than the usual time, a thing which is recommended by Dzierzon. Will you please tell us explicitly just what you mean as to Electric Heater, glass and tar-paper.

Bees Eating Foundation—Other Questions.

I have been keeping from 10 to 15 colonies of bees for several years, just for the pleasure they give me in looking after them. I live in the buckwheat belt, and hundreds of acres are being sowed now which will begin to bloom by August 10. It always produces an abundant flow of dark honey which sells readily at 16 cents per pound. My bees last year averaged 40 sections from buckwheat alone. This year I sowed the buckwheat June 10. It is now almost a foot high (July 8), and will bloom in a few days, which will make the season much longer. Please answer the following:

1. Why do some colonies go into sections and just literally eat the foundation?

2. Would you advise feeding at night at this time of the year? I use Boardman feeders, and if I use them in the daytime it starts a rumpus.

3. I have all my queens clipped, so when a swarm issues I simply let it go back. What will be the result when a young queen is hatched?

4. Bees here will need no sections for two or three weeks, but will it do any harm to put supers on now to be ready for the honey-flow when it does come?

5. In making 2 colonies from one, should the queen be left on the old stand or taken to the new place?

PENNSYLVANIA.

ANSWERS.—1. You will not likely find this to occur when the bees are very busy storing. When bees have nothing to do they are a little like mischievous puppies. Better not leave sections on after the flow stops. The thinner the foundation the worse the bees are about gnawing it.

2. Yes, if you are obliged to feed this time of year, it is better to feed at night if you use an entrance-feeder like the Boardman. If you use a top feeder, like the Miller, it makes little difference.

3. When it comes time for the young queen to fly, a swarm will issue with the young queen, and must be hived or it will abscond.

4. It will do no great harm, but the sections will not be quite so nice and white. In some cases the foundation may be gnawed.

5. Nearly all the field-bees will go to the old stand, and they will do better work at storing if the old queen is with them. Very little storing will be done at first at the new stand, and by the time there is a good force of field-workers there the young queen ought to be ready to encourage them.

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CLOSE SATURDAYS AT 1 P.M.—Our customers and friends will kindly remember that beginning with July 1, for three months we close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

PAGE

Exhibition

stock won't get scratched, or their beauty marred in PAGE fence enclosures.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, JOHN THOEMING.

MONTHS	July and August.		
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00
GOLDEN QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00

Select tested, $2.00. Breeders, $5.00 each.

2-frame Nucleus with Untested Queen, $2.25 each; 3-frame Nucleus with Untested Queen, $3.00 each; 6 for $2.75 each.

D. J. BLOCHER, Pearl City, Ill.

27Atf Please mention the Bee Journal

DAIRYMEN ARE DELIGHTED to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars. DRAPER PUBLISHING CO., Chicago, Ills.

GENERAL ITEMS

No Honey Worth Mentioning.

Let me state the results of my visit with the brethren: The counties of Ventura, Los Angeles, Riverside and San Diego are the leading honey sections of California, and notwithstanding the many newspaper reports of the "record-breaking" year for honey in Southern California, put in circulation by buyers and speculators (including a so-called bee-journal, whose editor and proprietor is a speculator, but has two or three colonies of bees in a city back-yard, so he can say "us bee-keepers") there is no honey in these counties worth mentioning.

Mr. Mendleson with about 800 colonies reports no honey, and is moving his bees into the bean-fields, hoping for a little bean-honey. Mr. McIntyre with his 800 or 1,000 reports some honey, but is not going to extract any. Others report no surplus.

Southern California will not produce more than enough for home use, in place of the boasted 500 car-loads. The honey season is practically over. DELOS WOOD.

Santa Barbara Co., Calif., June 28.

Hiving Back Swarms.

I notice on page 403 a request to those who have had experience in hiving back swarms into colonies that have previously cast swarms. I have had quite a large experience along this line, having practiced this plan of preventing increase for three or four years on hundreds of colonies. How long is it necessary to wait after a colony has swarmed before a swarm can be given it without danger of having the swarm re-issue? If it is at the beginning or during the first half of the regular swarming season, wait at least 8 days, and then it may be necessary to take away about 2 frames of brood, and give frames of empty comb or foundation. If it is toward the end of the swarming season, put in a swarm in 7 days, as they are not so liable to re-issue at this time. The cells should be cut on the fifth day after the swarm has issued, then again the seventh or eighth, just before running in the new swarm. It will not do at all to hive a swarm into a colony that has unsealed brood young enough to make larvæ for queen-cells, as they will do nothing but build cells and swarm out. But it is fairly safe after all larvæ are 4 days old or over. I have had only a very few cases where the queen laid a few eggs and the bees swarmed out with cells just started. W. C. GATHRIGHT.

Donna Ana Co., New Mex., June 29.

Vetch as a Honey-Producer.

I have seen at different times letters regarding the vetch as a honey-producer, and I think I am now in a position to speak with certainty on the subject.

There are in my immediate neighborhood this year between 20 and 30 acres sown to vetches; they are sown in the fall, mostly mixed with wheat, and are the best thing I know of for feeding green to horses, cows and pigs. They also make first-class hay, and we had a heavy crop. During the past week they were in full flower, and humming with bees all over, and a colony I have on scales increased 28 pounds in 6 days. There is not a large amount of white clover around here; on the other hand, some colonies I have at a place some distance off, where there are no vetches but great quantities of white clover, have not put up as much. The honey is as light as white clover, and of good flavor.

British Columbia, June 24. W. FISHER.

[The following, on the same subject, was sent us quite awhile ago, but with the request that we do not publish it lest "it bring a flood of letters of inquiry" which the writer said he had "not the time to answer." (That is one of the nuisances resulting from pub-

QUEENS!

Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North.

The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

We have files of testimonials similar to the above.

Our Breeders originated from the highest-priced, Long-Tongued Red Clover Queens in the United States.

Fine Queens, promptness, and square dealing, have built up our present business, which was established in 1888.

Prices of GOLDEN and LEATHER-COLORED QUEENS, after July 1st:

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Selected	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	9.00
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We guarantee safe arrival, to any State, continental island, or any European country. Can fill all orders promptly, as we expect to keep 300 to 500 Queens on hand ahead of orders. Special price on 50 or 100. Free Circular. Address all orders to

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28A4t D. E. ANDREWS, Bloomington, Ind.

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New York and Atlantic City

at $18.00 for round-trip, via Nickel Plate Road, July 17 and 31. Return limit 12 days. Stop-over at Chautauqua Lake and Niagara Falls within final limit. City ticket office, 111 Adams St. John Y. Calahan, General Agent, Chicago, will be pleased to give detailed information. 38—30Alt

lishing the post-office address of a correspondent. We avoid that by simply giving the County and State, which is sufficient for location.) So we will omit the correspondent's name as well as post-office, and publish his letter, believing he will not objeet by such use of it for the benefit of our readers:—EDITOR.]

There is a variety of vetch here, the seed having been first sown about 4 years ago. It continues to grow on the same ground, I suppose, from seeds that are scattered when the hay is made. The bees work very busily upon it from March until July, but not upon the blossoms. At the base of each stipule is a little brown spot or gland from which a sweet sap is secreted. If the plant is not visited by bees for a few minutes, enough of this sap will accumulate to form a drop as large as the head of a common pin. The blossoms appear in June, but I have never seen a bee upon them. I think the flower-tubes are too deep for the bees to reach the nectar.

The vetch is not plentiful here; but since the bees work upon it whenever the weather is warm enough for them to fly, if raised in large quantities, it certainly would be of great importance in getting the bees in good condition for the white clover flow, which begins late in June.

The opportunities for bee-keeping here are good. The amount of clover is increasing rapidly; we have a good home market, and at a fair price.

A good many bees are kept by farmers, and do quite well; but real, live, up-to-date bee-keepers are very few indeed.

Only 15 miles away are the burnt timber regions of the Cascade Mountains, where fireweed, salal, vine-maple, and other honey-plants abound. The quality of the honey produced there is of the best, but the territory is unoccupied except by the millions of wild bees that are everywhere found. I visited this region twice last summer, and found the salal yielding nectar in quantities that surpassed even the most extravagant reports of the basswood.

Here are thousands of acres of unclaimed land, good mountain water, and only 20 to 25 miles from the railroad—surely, a bee-keepers' paradise, unknown and undeveloped.

Not many years ago a man kept an apiary of 90 colonies in the mountains 12 miles from here, and cleared an average of $600 per year. This man died, and the apiary passed into the hands of others, who were not bee-keepers, and the business soon went to ruin. No one has tried bees on an extensive scale there since, but most of the settlers keep a few (one man whom I visited had over 40) colonies at a good profit. I am now studying conditions, hives best adapted to moving, location, and other matters, with a determination to take 20 colonies there in July and give the pasturage a trial. I shall employ my spare time in hunting bee-trees, and may decide to locate a homestead if I find the enterprise a promising one.

Marion Co., Oreg.

Unfavorable Weather for Bees.

The spring and summer, so far, have been the most unfavorable for bees of any during my experience—too much wind, cold and wet weather, and now, at the end of June, with abundance of flora there is no weather to handle it. The thermometer has been bubbling around 50 degrees nearly all this month; sometimes below 40, and only a few times above 60, and rain, rain. To produce a good flow of nectar the thermometer should register from 80 to 90, and even 100 would not hurt.

The bees in anticipation of a good flow made ample preparations for swarming, building queen-cells by the dozen, but have been so retarded in their desires, have swarmed with the least possible outbursts of sunshine, and in many cases before the swarm could get fairly on wing a dark cloud would obscure the sun, and the air become so cold, and with the strong winds continually blowing, the

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

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Do not put your money into New Fangled Bee-Hives, but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

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BUCKEYE STRAIN OF 3-BANDED LONG-TONGUES are wonderful honey-gatherers. One customer bought 10 dozen. Just think of it! (He bought a few last season as a trial.)

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As fine as money can buy. Either of the above by return mail, 75c each; 6 for $4.00. Selected tested, best money can buy, $1.50.

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alog? 60 illustrated pages; describes EVERYTHING NEEDED IN THE APIARY. BEST goods at the LOWEST prices. Alternating hives and Ferguson supers. Sent FREE; write for it. Tanks from galv. steel, red cedar, cypress or fir; freight paid; price-list free.

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Stock which cannot be excelled. Each variety bred in separate apiaries, from selected mothers; have proven their qualities as great honey-gatherers.

Golden Italians Have no superior, and few equals. Untested, 75 cents; 6 for $4.00.

Red Clover Queens, which left all records behind in honey-gathering. Untested, $1.00; 6 for $5.00.

Carniolans —They are so highly recommended, being more gentle than all others. Untested, $1.00.

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7A26t Please mention Bee Journal when writing

bees would be driven down upon the tops of hives, and upon the grass, and would have to remain there until the cloud passed over and they got warmed up so they could return to the hive. In most cases I was able to capture the queen on the alighting-board and adjust a new hive on the old stand before the bees were able to return: in several cases they took refuge in other hives, and in one case the cold was so intense that day and for several days following, that they remained there, that is, the major part of the swarm.

This season is my first real experience with clipped queens: I have about ¾ of them clipped, leaving one row of about 20 unclipped, as I failed to get such practical help as I needed, when the weather was suitable. Of the clipped ones I think fully 10 percent have been superseded, while not one of the unclipped, so far as I know, have been disposed of. This would seem to be some evidence that clipping causes supersedure. I find, however, that I can manage swarms much more easily with clipped than unclipped queens, and notwithstanding the tendency it seems to have with me to supersedure I may become an advocate of clipping.

Swarming having been delayed, the swarms are coming off very large, and if the weather should clear up and become warm we may yet get some honey, but the prospects are for a very short crop. A. BOOMER.

Ontario, Canada, July 2.

Loss in Wintering—Swarming.

Last winter was the worst on record for the bees for many years; losses from 50 to 100 percent, and the average loss at least 60 percent. Backward spring—in fact, the same old story you read in the bee-papers almost every week. My loss touched 40 percent; the bees died and left from 58 to 75 pounds of honey in the hives (10-frame). I cleaned the hives out and stored them away and put early swarms right in on the honey, and as a result I have some 400 fancy sections from my swarms that otherwise I would not have had.

While I have had such bad luck in winter losses, never saving over 60 percent, still I have never lost a swarm; I never clipped a queen's wing, and have never had to hive a swarm a second time.

I have had 20 swarms, the first on May 17; there is lots of complaint of swarms leaving, and they frequently pass over. Will some of the "bruddering" tell me how to stop a swarm that is passing over? I have tried to stop them, but always fail. I have a boy to watch the bees, and just as soon as they get clustered I go after them. If the queen has failed to come out, and is not with the swarm, they will not go into the new hive, but return to the parent colony on the attempt to put them in.

There seems to be a good flow of white clover and basswood, but the weather is so windy, cool and wet that bees can not do much. J. M. WEST.

Pike Co., Ohio, July 3.

Plenty of Bloom, but Little Honey.

Bees are humming, but nectar is slow in showing up, as there is plenty of bloom. Cold nights and afternoon winds are killing off the field-forces at a terrific rate. I am afraid that the yield from first crop of alfalfa will be light, as the mowing machines will be out shortly, and that means quit in short order, in this valley.

Bee-keepers that are running for extracted honey say that all colonies that are strong enough are storing pretty lively; none extracted yet.

I had only 5 swarms from 100 colonies and all had queen-cells. How is that? They did not lose much time, either, while the fever was on. Ninety-eight colonies working in the supers and almost ready to be reinforced, or supers doubled. Two are rearing queens.

A bee-keeper told me yesterday that he expected to average 3 cases of comb honey per colony, from 150 colonies, and his bees are not yet up in the supers, and not more than 30 on as yet. I hope he succeeds, for I will do quite as well. I think, for I have the start of him.

I think if C. Davenport will try using one or two brood-frames (or frames of brood) when driving below an excluder, he will have no further trouble with the bees swarming out. It is almost impossible with us here to keep them at home when transferring the second time for foul brood (McEvoy method), without using entrance-guards or brood.

I think the convention must either elect all officers at the regular meetings, or make nominations so the members will have some idea who to vote for. I am lost when it comes to voting, as the matter now stands. Our conventions should come a little later in the season to benefit us Nevada bee-keepers, as all our heaviest work comes about the first of September, and all who try to do the most of their own work, like myself, cannot get away at that time. I would like ever so much to attend the Denver convention, but I'm afraid it's no go for me. I expect, too, that it will be some time before we will have another chance at it so far west.

JOHN W. LYELL.

Washoe Co., Nev., June 28.

—ITALIAN—

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We have a strain of bees bred specially for honey-gathering and longevity. We feel confident of giving satisfaction.

PRICES:
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1 Untested Queen	$ .60
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1 Select Tested Queen	1.00
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1-Comb Nucleus, no queen	1.00

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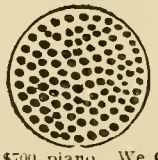

If you can, send your name and address for a sample copy of the best farm paper published and particulars of our great dot counting contest. Every person who counts correctly gets a prize, while those who count best get cash prizes from $1 to $125 and a $700 piano. We are giving away **$2,500 in Prizes.** Send name on Postal to-day for free particulars. Address,

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to New York and Atlantic City via Nickel Plate Road at $18.00 for the round-trip, July 17 and 31, and Aug. 7 and 14. Return limit 12 days. Stop-over at Chautauqua Lake and Niagara Falls within limit. Three through daily trains. Meals served in dining-cars on Nickel Plate Road on American Club Meal Plans, ranging in price from 35 cents to $1.00; also a la carte. Chicago Depot, Harrison St. and Fifth Ave. City Ticket Office, 111 Adams St. For particulars write John Y. Calahan, General Agent, Chicago. 39—30A1t

Please mention Bee Journal when writing Advertisers.

Poplar Honey—Short Crop.

All my life I have heard that a "good beginning makes a bad ending." Although we had a bad, discouraging beginning, we have not had a very good ending. The bad weather lasted until April 14; the 15th opened up bright and warm, and continued very warm and dry all of poplar-bloom time, which gave us one of the finest flows we ever had, and it was the finest honey I ever saw. It was so thick before it was sealed that it would hardly run through a strainer-cloth, but on account of the cold, late spring bees were very weak and in a sad shape to take care of the crop. The best colonies stored from 5 to 8 gallons; the rest from 2 to 3 gallons.

On account of the dry, hot month (and it was awful hot), our June flow from sourwood has been almost a complete failure. Bees usually store some honey from cotton and bitterweed, but our surplus crop is over now. I think that I can safely say that the crop is from ⅓ to ⅔ less than it should be. Out of 70 colonies only two colonies in box-hives and two, and maybe three or four, in frame hives, swarmed. I did not do anything to prevent swarming, only gave them plenty of room. I have found out that the road to success lies through a rich hive in the winter and a good queen. Some writers say that it is best to requeen every year; I do not think that would work every time. I bought an untested Italian queen in 1900, and that colony has stored more honey than any other one here.

I see that C. C. Parsons wrote Dr. Miller that bees store honey from dogwood in some parts of Alabama. I do not think I ever saw a bee on a dogwood bloom here.

Hale Co., Ala., June 30. J. S. PATTON.

Fastening Brood Foundation.

Bees in this locality are not doing very well this season; there have been only 6 swarms in the whole country, to my knowledge. We have had only two weeks of good honey-flow, and that is the last two weeks. This section of the country has been visited with heavy rains, and constant winds (that we could not say were only breezes), and some very cool nights. But we live in hopes of better weather. White clover and basswood are in bloom.

I saw in the American Bee Journal some time ago something about fastening comb-foundation in brood-frames. I have tried all the ways that have been told of in text-books, and I come with something new—at least I have never seen it in any text-books. I want to say right here that the first text-book should be the "hive of bees" you get, and if you get it "hived" successfully, try some bees, and see how much pleasanter it will be.

Now for the fastener: Take a board 2 feet long and one foot wide, planed on one side; nail a small cleat on top of the board on the side you want next to you. This is to keep the frame from slipping away from the foundation; tack a light strip under the bottom of the frame on the board to hold the frame level, then take a piece or strip that will go in the frame easily; this piece should be just one-half as thick as the top-bar. Push the frame up tight against the cleat, and lay this one on the inside of the frame. Bring it up

until the beveled edge almost comes in contact with it; this piece must come up to the bevel of the frame so as to keep the foundation level. Then you want a small cleat on this one so as to keep your foundation from slipping away from you. Take the foundation as wide as you want it, allow ⅛ of an inch to rest on brood-frame, then slip the little cleats up against the foundation and tack them to the board, that is, the cleats. I use a half roller for fastening foundation and find it more satisfactory than the roller, for the roller pushes too much. I take a firm piece of wood 3-16 of an inch thick, 3 inches long, and 2½ inches wide. Take a compass and make a circle on one end, trim off nice and round, with a very smooth edge, leaving one end square; lay down a damp cloth, when it is convenient, and roll over on this once for every frame, and it will not stick to your roller. Keep a constant, firm pressure on the roller. I have put 10 frames in a few minutes, and that is fast enough for anyone.

I have explained this device as clear as I could, and if there is any one who wants to know more, I would be only too glad to explain further.

How about keeping bees in an attic? Is it a success? There is a man here who wants to put bees in his attic, but would like to know more about it. A. M. HOOVER.

Vermillion Co., Ill., June 20.

[We will have to call on Rev. W. S. Sly, of Michigan, who has an attic apiary. How about it, Mr. Sly? Is it a success?—EDITOR.]

Keeping Down Increase by Uniting Swarms.

I see on page 403, under "Prevention of Increase," what I call uniting swarms or doubling them up. It says when the first colony swarms hive the swarm in the usual way. When the second colony swarms hive in No. 1, that is, in the hive of the colony that first swarmed, and so on. My plan is to have boxes to put bees in that I wish to double up. When the first colony swarms hive in a box; when No. 2 swarms put it into a hive or shake off in front of the hive; then take No. 1 in the box and dump them out on swarm No. 2, and they will all go in together in perfect peace. I have thrown 7 weak swarms together in that way, and got a good colony, whereas, if they had each been hived in separate hives, they would have been of no account.

Reno Co., Kans. WM. F. CARSON.

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Daughters of Moore's famous long-tongued red clover Italian Queen, which won the $25.00 prize offered by The A. I. Root Co. for the longest-tongued bees; and also daughters of other choice long-tongued red-clover breeders whose bees "just roll in the honey," as Mr. Henry Schmidt, of Hutto, Tex., puts it, now ready to go by return mail. Untested Queens, 75c each; six, $4.00; dozen, $7.50. Select untested, $1.00 each; six, $5.00; dozen, $9.00. Safe arrival and satisfaction guaranteed. Circular free.

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State price, kind and quantity.

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Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st

Send for circular.

JOHN M. DAVIS,

14A26t SPRING HILL, TENN.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 7.—The honey market may be said to be on a vacation so far as actual business is concerned. Should the harvest of 1902 be practically a failure there will be no dearth of extracted honey, as there is more of it in storage than we have ever known at this season of the year. If the consumers are not too greatly impressed with the idea that the honey harvest is a failure this season it may be worked off at an advance in price. Beeswax is lower, yet sells well at 30 cents per pound.

R. A. BURNETT & CO.

KANSAS CITY, July 5.—Some new comb honey has arrived. We quote: New, 14@15c; old, 12@13c. Extracted, white, 6@6½c; amber, 5@6c. Beeswax, 25@30c. C. C. CLEMONS & CO.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6½c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.

THE FRED W. MUTH CO.

ALBANY, N. Y., July 10.—Honey market not opened yet for this season, but we look for demand to begin in a couple weeks. No old crop in the way. Expect good demand and good prices for new crop, which is very light in this vicinity. H. R. WRIGHT.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6½@7c; dark and amber, 5@6c. Beeswax, 29@30c. M. H. HUNT & SON.

NEW YORK, July 7.—There is some fair demand for comb honey at 14c for strictly fancy white; 12@13c for No. 1, and 10@11c for amber. Extracted quiet at unchanging prices. Beeswax dull and declining at 29c.

HILDRETH & SEGELKEN.

CINCINNATI, July 7.—The shipments and offers on new comb honey are so little, besides the predictions for the yield of honey so uncertain, that I can give no figure for prices. Extracted is selling for the same price—Amber, in barrels, 5@5½c; alfalfa, 6@6½c; white clover, 6½c. Beeswax, 28c in cash.

C. H. W. WEBER.

SAN FRANCISCO, July 9.—White comb, 10@12 cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

Stocks are of light volume and market cannot be termed favorable to buyers, but demand is not brisk at prices now generally asked, dealers waiting as a rule for offerings to be presented to them. If presure to realize were exerted, the material shading of rates to buyers would be necessary to effect noteworthy wholesale transfers.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.

21Atf Mention the American Bee Journal.

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SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.

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National Bee-Keepers' Convention at Denver, Sept. 3-5, '02

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JULY 31, 1902.

FORTY-SECOND YEAR No. 31.

WEEKLY

On the Way to Denver.

East End of Union Pacific Railway Bridge across the Missouri River, between Council Bluffs and Omaha.

An Irrigation Scene in the South Platte Valley, near Sterling, Colo.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

EDITOR—George W. York.
DEPT. EDITORS.— Dr. C. C. Miller, E. E. Hasty.
SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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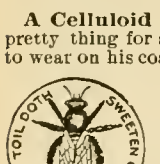

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., JULY 31, 1902. No. 31.

Editorial.

The Denver Program has been completed, and is as follows:

FIRST DAY—WEDNESDAY—EVENING SESSION.

7:30 o'clock.

Invocation.
Music.
Addresses of Welcome by Pres. Harris, Mayor Wright, and Gov. Orman.
Responses by Pres. Hutchinson, Sec. Mason, and Director Miller.

8:30 o'clock.

"Bee-Keeping from the Atlantic to the Pacific, as Seen Through the Camera and Stereopticon"—E. R. Root, of Ohio.

SECOND DAY—THURSDAY—MORNING SESSION.

9:30 o'clock.

Music.
President's Address—"The Future of Bee-Keeping"—W. Z. Hutchinson.
Discussion.

10 o'clock.

"Which is the Most Hopeful Field for the National Association?"—Dr. C. C. Miller, of Illinois.
Response by Rev. E. T. Abbott, of Missouri.
Discussion.

11 o'clock.

Question-Box.

SECOND DAY—THURSDAY—AFTERNOON SESSION.

1:30 o'clock.

Music.
"Reporting of the Honey Crop; When and How it Should Be Done"—C. A. Hatch, of Wisconsin.
Response by Frank Rauchfuss, of Colorado.
Discussion.

2:30 o'clock.

"Bee-Keeping Lessons that May be Learned from the Word 'Locality'"—H. C. Morehouse, of Colorado.
Response by E. R. Root, of Ohio.
Discussion.

3:30 o'clock.

Music.
Question-Box.

SECOND DAY—THURSDAY—EVENING SESSION.

7:30 o'clock.

Music.
"The Outside and Inside of a Honey-Bee" (Illustrated by the Stereopticon)—Prof. C. P. Gillette, of Colorado.

THIRD DAY—FRIDAY—MORNING SESSION.

9 o'clock.

Music.
"Selling Extracted Honey at Wholesale—How to Get the Best Prices"—J. F. McIntyre, of Colorado.
Response by T. Lytle, of California.
Discussion.

10 o'clock.

"Putting Up Extracted Honey for the Retail Trade"—R. C. Aikin, of Colorado.
Response by George W. York, of Illinois.
Discussion.

11 o'clock.

Question-Box.

THIRD DAY—FRIDAY—AFTERNOON SESSION.

1:30 o'clock.

Music.
"Managing Out-Apiaries for Comb Honey"—W. L. Porter, of Colorado.
Response by M. A. Gill, of Colorado.
Discussion.

2:30 o'clock.

Question-Box.

3:30 o'clock.

Trolley Ride—"Seeing Denver."

THIRD DAY—FRIDAY—EVENING SESSION.

9 o'clock.

Banquet.

A. B. MASON, *Sec.*
Sta. B, Toledo, Ohio.

Untested Queens.—We find that there are quite a number of bee-keepers (beginners, of course) who seem to think that the untested queens offered for sale are also unfertilized. We are frequently asked by letter whether untested queens are fertilized. It seems such a useless question to ask. What good would be an unfertilized queen? No honest queen-breeder would send out virgin queens.

An untested queen is simply one that is fertilized, but has not been kept in a colony or nucleus long enough for her eggs to hatch, so as to see the kind and color of her bees.

A tested queen is one that has been kept by the queen-breeder long enough to see first what kind of bees she produces.

The Use of Smoke On Opening a Hive is a thing subject to abuse. If a colony is deluged with smoke there is an unnecessary loss of time in the work of the colony, supposing, of course, that the time is one when the bees are gathering. If too little is used upon a cross colony, or at a time of day or under any circumstances when the colony may be temporarily cross, a lot of cross bees will be in the air, and in the long run more smoke will be necessary than if the bees had been kept under subjection from the first. Experience is needed to know just what is best.

The beginner is likely to be confused by the contradictory advice sometimes given. In a late exchange the beginner is told that before opening the hive he must puff smoke into the entrance and wait three or four minutes for the bees to fill themselves with honey. That would be a time-robbing performance in a case where fifty or a hundred hives are to be opened in the course of a day. Suppose we take the medium ground, and say that 75 hives are to be opened, and that 3½ minutes are allowed in each case for the bees to fill themselves with honey. Seventy-five times 3½ minutes make 4 hours and 22 minutes—a length of time that a busy bee-keeper could not well afford.

Another writer tells him that only in rare cases is it necessary to blow any smoke into the entrance. That may be going to the other extreme. In many cases it would be all right, for in many cases bees are so gentle that no smoke whatever is needed from the time the hive is opened until it is closed, but if smoke is to be used at all during the operation it is well to give at least a preliminary puff at the entrance, so as to give the guards notice that they are not to rush out when they feel the hive jarred by the prying open of the cover.

The beginner should have in mind that if a queen is to be found, especial care should be used to give no more smoke than is absolutely necessary, for if the bees are set to running it is a very hard thing to find the queen.

Rambler's Jouncer was seen in operation by the editor of Gleanings in Bee-Culture while he was in California, and he commends it as a good thing to jar bees out of supers, especially where the modern escape is not used, and can not be used at out-yards. He says:

It consists of a framework, or four table-legs, as it were, without a top, thoroughly braced together. It stands about two feet high; is just wide enough and long enough to take in a regular hive-super between the four legs. Beneath the super is put a trap of cloth, and this is supported at such a height as will bring the super up flush with the top of the legs. Now, to get the bees out: Lift the super and jouncer off the ground a few inches, and give it a sharp "jounce" downward. Repeat these jounces till the bees are all jarred out on the tray, which can be dumped in front of the entrance.

Quoting the Honey Market has another "whirl" this week, as will be seen by referring to page 485. Mr. S. A. Niver, of New York, sends us the following:

MR. EDITOR:—I am glad to see you stir up the subject of quoting the honey market, for it needs attention in many ways. It is the most interesting—if not the most valuable—column in the "Old Reliable" to the bee-keeper. That is the first thing I read. But what a "tired feeling" comes over me when I read a finely written and encouraging market quotation, in the July 24th number, which is dated "March 6." "It hath an ancient and fish-like smell." S. A. NIVER.

Of course, in one way, we are to blame for not removing from our market column any old quotations. But we have an understanding with those who quote, that they will change quotations whenever any changes in prices or conditions in their several cities occur. But some of those who quote don't seem to appreciate the privilege they have of

being represented in the market column of the American Bee Journal. If they were to pay full value for it they would find it would cost them a good many dollars every year. If dealing in honey is a profitable part of their business, they should see to it that their quotations are fresh and up-to-date. We stand ready to change them every week, if they will only send them in.

We are glad to have the bee-keepers "get after" those who quote prices on honey. Some of them need a good poking up.

Weekly Budget.

SECRETARY D. W. WORKING, of the Colorado State Bee-Keepers' Association, has sent us the following, dated July 18:

DEAR MR. YORK:—I enclose a copy of a set of resolutions adopted yesterday by our Executive Committee.

We have appointed a Reception Committee to look after the comfort and convenience of our guests at the National convention. Mr. Herman Rauchfuss is chairman; and among the other well-known members are Mr. Gill, Mr. Morehouse, and Mr. Aikin.

Pres. Harris came over from Grand Junction yesterday, and is in the city to-day looking after business connected with the big meeting. Yours truly,

D. W. WORKING.

The resolutions mentioned by Mr. Working refer to the death of Mr. Chas. Dadant, which was noted last week, and read as follows:

WHEREAS, We have this day received notice of the death of the venerable Charles Dadant, of Hamilton, Ill., at the ripe old age of 85 years;

WHEREAS, The services of Mr. Dadant to the science and art of bee-keeping have been of the first order, and his life has been a benediction to all who have been associated with him in business and social ways; therefore, be it

Resolved, That we, the members of the Executive Committee of the Colorado State Bee-Keepers' Association, hereby express our appreciation of his character and worth as a man and a friend, and that we unite with his friends and admirers everywhere in testifying to his worth;

Resolved, That the Secretary of this Committee be directed to transmit a copy of these resolutions to Mr. C. P. Dadant with the condolence of the Committee.

JAMES U. HARRIS, FRANK RAUCHFUSS, D. W. WORKING, } *Executive Committee.*

ON THE GENERAL MANAGERSHIP MATTER, Mr. Abbott sends us the following letter for publication in answer to Acting Chairman E. R. Root's, as given on page 418:

ST. JOSEPH, MO., July 14, 1902.

Permit me to reply to the communication of Mr. Root in a late number of the American Bee Journal.

I desire to say that the Board have declared that they have authority to act in this matter. My contention is that they did act, and that seven out of eight votes were cast for me. The question of a quorum can not be sprung. The entire Board were notified and were constructively present. Seven of the eight who voted, voted for me.

Now, as to the vote cast for E. M. Abbott: There is no use for any fair-minded man to quibble over that. Dr. Mason knows who cast that vote, and it would not take very long to find out what the voter intended, if one wanted to deal fairly and honorably with a fellow-worker. However, it does not require a majority of the Board to constitute an election, if the constitution is to be taken for a guide, but a majority of those voting. Six votes are, however, a majority of eleven, and there were only that many of the Board to vote, leaving out myself.

You know, perhaps, that this whole thing is a mere quibble and a subterfuge, and is not the real reason of all this trouble, and none of the parties who started this difficulty dare say that it is. This whole thing grew out of the attitude of Mr. York and myself toward Mr. Benton, a matter that has been adjusted by the parties interested long since.

I contend, further, that every man who cast a vote for a successor to Mr. Secor, voted to accept his resignation at the same time, and that let him out. You wink at this, simply because it is unanswerable. There was no occasion for Mr. Secor to send his resignation to you—he was *already out*—if the Board had power to act—and *I was in*. It seems to me folly to talk of appealing from my decision. I had not made any decision, but the majority of the Board of Directors had.

After every bee-journal in the United States and Canada had made the announcement of my election, you had notified Mr. Secor, and I had taken up the work of the office, then these gentlemen began to look around for a way to dispose of me, and I was asked to resign. Why resign if never elected? Drowning men cling to straws.

You say, "Mr. Secor's resignation has been returned to him marked not accepted." By whom? Surely not by the eight people who voted to let him out, seven of whom elected another man to serve in his place. Does not the man elected have some rights?

You say you are for the Association. So am I; and I think I am safe in saying that I have done as much hard work, and spent as much cash to promote its interests, as any other man in it. I did not want to be General Manager, neither do I want to be kicked out of the Board simply because I am not willing to see the affairs of the Association mismanaged. I openly charge that its business has been neglected, and, further, that Mr. Secor himself was placed in office at least once when he was not legally elected. At the last election he received only 172 votes out of over 900 members, which would show that the membership is not overly enthusiastic, to say the least, about having him for General Manager. At an election before this he received a less number of votes than another man, and yet he was declared General Manager. I was Chairman of the Board and said nothing about this, simply for the sake of harmony, hoping that the time might come when the affairs of the Association would be conducted on different lines. However, I do not have to base my contention of mismanagement on anything but his own statement. He has said over his own signature, that owing to the press of other business he neglected the work of the Association, and I say without any hesitancy, as a member of the Association who has its welfare at heart, that the time has come for this neglect to stop.

I am for the Association, but I am, also, for right, justice, and fair dealing. I am not asking any favors of the Association: I never asked any. It was not my will that I be elected General Manager. It was none of my seeking. I am not one who is given to wink at what he believes to be wrong, simply to get the good-will of a few individuals, even though this might promote the interests of the Association. I do not hesitate to say that if the life of the Association hinges on the unfair treatment of any individual, then it would be better that it *die now*; for no institution which openly defies the rights of one of its officers and active members, let it be ever so meritorious at the start, can live very long.

I am ready to meet these gentlemen at any time and discuss this matter in a fair and candid way. I, too, was a member of the Board, and was elected by the same constituency that elected them, and as I see things I am now a member of the Board, and its Chairman, if I am not the legal General Manager. You do not place before the membership the real reason for this trouble; neither do you tell them that all of this was worked up *after* the Board had voted and the vote had been declared. I am at a loss to see how the Association is to be benefitted by such a procedure as you suggest. Yet it may be perfectly clear to you.

I have no personal grievance against any member of the Board, and I can co-operate with any of them, but I do object to being held up before the public by you, or any one else, as trying to elect myself General Manager. If we want to be fair and just, let us hear from the man who voted for "E. M. Abbott;" let us hear from any man on the Board who thinks his rights have been infringed upon, and perhaps we can get at the real facts in the case.

Here is what a member of the Association says in regard to the matter:

STANISLAUS CO., CALIF., July 9, 1902.

MR. E. T. ABBOTT, St. Joseph, Mo.

Dear Sir:—In the marked Modern Farmer you sent, the members of the National Bee-Keepers' Association are requested to give their views on the miserable smash-up of the Association. As the latest Gleanings is at hand, and I should desire the information, if in your position, I now comply with your request.

In my opinion the Directors had the authority to accept the resignation of Mr. Secor, and elect his successor, which they did at one and the same time. Their easiest way now to get rid of you is to declare your election valid, which it certainly is.

Your offer to leave the matter to the membership is certainly fair, but I doubt very much if the Directors will leave it to a vote. The Executive Committee would probably stand with the "push." If left to the members at a special election, I fear you would be defeated by a strict party vote.

Of course, you can do little for the Association, as things now stand. Were I in your place I should endeavor to hold all funds in my hands until a successor should be elected. I see no opposition to the Colorado Director keeping your old seat warm—all legal, I guess.

This letter is not founded on personal grounds in the least. Why men usually so fair, as are the most of your present opponents, should take the contradictory and absurd positions they have, staggers my comprehension.

You have my consent to use this letter any way you please, provided the entire letter is used. Yours truly,

W. A. H. GILSTRAP.

Another member says in the name of a half dozen others:

"We recognize no General Manager except you, and will never pay a cent of dues to any other but you, and your properly-elected successor. So hold your ground, and contend for your rights. If much of such doings is kept up by the leaders, our Association will be busted, and no mistake, sooner or later."

I hold that I am the only legal General Manager in existence. I want to say to all of those who have sent their dues to me, that they need have no anxiety about them. I will see that their rights are protected. I have receipted for all dues sent me the day they were received, and I shall continue to do so until the Association elects another General Manager. When it does, I shall make a report to him, and give him a check in full for the amount due the Association.

In conclusion, I desire to say that I am perfectly willing to leave this entire matter to three disinterested men. If they say I was not legally elected, that ends all opposition on my part.

Yours for justice and right,

EMERSON T. ABBOTT.

In order that this controversy might be ended this week (so far as the American Bee Journal is concerned), we requested Mr. Root to forward his reply so that both might appear in the same issue. Here it is:

EDITOR AMERICAN BEE JOURNAL:—I am sure your readers must be tired of this thing, as it is a matter that concerns the Association alone, and not the general public; and I, for my part, do not feel like inflicting on your readers a further discussion, any more than

to say I championed Mr. Abbott at the beginning of this trouble, and hoped that the matter might be dropped, and that he (Abbott) might be permitted to fill out the unexpired term of Mr. Secor. When I was convinced, after a conference with some of our best men, that the proceedings respecting his supposed election was wholly illegal, and out of order, and how Mr. Abbott was attempting to "force things" irrespective of the consequences to the Association at the very zenith of its success—just when it was getting to be a power for good—I felt that I could no longer support him.

Six members of the Board voted for him for General Manager in the first place; but when they came in possession of the same facts as myself, twelve of them unanimously voted not to accept Mr. Secor's resignation; and a good majority of them voted also to declare Mr. Abbott's election illegal and void. A further reply to Mr. Abbott's points will doubtless be made to the membership direct.

But I can not forbear noticing his reference to Mr. Secor. I have probably criticised him privately as much as any member of the Board, and Mr. Abbott knows this; but unless it be to prejudice his readers I do not see why this public attack should be made on him (Secor) when the question is *not* whether Mr. Secor has been *negligent* or *incompetent*, but whether *Mr. Abbott* has the *right* to lay *claim* to the office of General Manager. Mr. Abbott says that "at the last election Mr. Secor received only 172 votes out of over 900," and then goes on to say, "The membership is not overly enthusiastic, to say the least, about having him as General Manager." Is he grasping at straws? The implied assumption from the above quotation is that there were 900 votes cast, and Mr. Secor received 172, or less than a fifth of them. The fact is, there were only 338 votes cast, and Mr. Secor received 172, the other ballots having been "cast for 109 different members." The constitution plainly says:

"The General Manager,.....shall be elected by ballot during the month of December, during each year, by a majority vote of the *members voting*." (Italics mine.)

Mr. Abbott probably didn't intend to misrepresent the facts; but the general public would be misled. The fact was, Mr. Secor received a majority of all the votes cast, and therefore was duly elected. But it is a wonder he received any votes when there were 109 other men voted for, and when he plainly stated, when calling for votes for a new Manager, that he did not wish to serve any longer. Mr. Abbott's statement, that "the membership is not overly enthusiastic, to say the least, about having Mr. Secor as General Manager," is as ungenerous as it is unfair.

Regarding the Benton matter, while I once thought it might have had an influence, I am now in possession of facts that show conclusively that it had nothing to do with the case. If any of the members were prejudiced at all, it was because of the treatment Mr. Abbott, as Chairman of the Board, exhibited toward Mr. Secor.

Mr. Gilstrap—and a most excellent man he is—apparently saw only one side or a part of the other side. If he will withhold judgment until he receives a full statement, I think he will see the matter in a different light.

E. R. ROOT.

And thus endeth this controversy in these columns. We believe we have given both sides a fair and sufficient hearing. For us to use more space would be a waste; and the majority of our readers, not being members of the Association, care little about the trouble, anyway. Personally, we have refrained from taking sides in the public discussion, preferring not to meddle with either the Board of Managers or Mr. Abbott in the settlement of their difficulties. We still hope that everything may be amicably adjusted, and that all may continue to be friends and brothers as heretofore.

MR. R. A. BURNETT, of R. A. Burnett & Co., is expecting to attend the Denver convention. Things will likely get warm when the question of selling comb honey by the case or pound comes up for discussion. "R. A." may be able to help "Burn-ett" into some of those conceited alfalfa boys, that "there are others."

Say, reader, if you want to see "A Hot Time" in Old Denver the first week in September, you'd better arrange for yourself and wife (or best girl, if so unfortunate as to have no wife) to "get aboard the train," and run up to Denver and help "liquefy" some of those candied apiarian Coloradoans!

Contributed Articles.

Does Not Think the Bees Were Poisoned.

BY C. P. DADANT.

The inquiry of a reader, on page 419, about the possibility of the poisoning of bees from spraying, attracts my attention.

It seems to me that the suspicions of the writer of this inquiry are based upon an erroneous impression. Fruit-bloom takes place early in May, and the loss of bees from bee-poisoning would be immediate. Even if the poison was fed to the brood, the bees would have shown the effects at once. The brood would have perished in its earliest stages, and the depopulation of the hive would have taken place more than a month earlier than the time reported.

The ragged-looking bees with frayed wings and shiny bodies are only old bees that have worn themselves out by continuous hard work. It is quite probable that in a wet season like the present, the labor of the field tells more upon the bees than in a dry summer. The worker-bee's life is short—exceedingly short—during the long summer days. The most practical method of testing this is by changing the breed—Italianizing, for instance. If an Italian queen is given to a colony of common bees and the black queen removed on May 1, there are ten chances to one that not a single black or common bee will be left in the hive by Aug. 1. In many instances it takes even less time. Yet, when the black queen is removed on the first of May, she leaves in the hive brood in all stages, and fresh-laid eggs which will require some 22 days to hatch. So the last black bees will have hatched May 22, and yet those bees will all have died by Aug. 1. When we reflect that those same bees, if they had been born Sept. 1, would have lasted till the following May—a part of them, at least—we must look for a cause of this short life. The cause is hard work.

After 8 to 10 days of sedentary life in May and June, the young bee begins its active work, and is constantly on the go from early daylight till long after sunset. At first it is covered with a thick down of hairs. Its wings are perfect. Slowly and steadily, by repeated flights among the grasses, in the calyx of flowers, it loses its downy fleece, and its body begins to shine, bald looking, the wings become worn, frayed and short, and some evening after a hard day's work the poor laborer is unable to reach its home. Or, if it happens to get home with the last load, a light breeze on the next trip will force it down in the dust from which it will never rise. Thus, do our bees die out during the summer days. Nature is a harsh and inexorable mother.

If the queen is healthy, and there is room in plenty in the breeding combs, the numbers are not too much depleted by the natural wearing out of the old bees; but if the queen becomes tired, or is getting old, the laying may be reduced, and the colony will soon show a decrease of activity.

In some cases it may be that the colony has swarmed unknown to its owner, and not until the young queen has been fertilized, and her first-laid eggs begin to hatch, will the numbers increase in the hive.

I believe it is to these causes, and not to spraying poison, that your correspondent must ascribe the condition of the bees mentioned. "The sick bees have flown away." Yes, just so. The poor worker, when her wings get so frayed and so short from overwork that they can no longer carry her, does not seem to realize what is wrong, and still insists on going to work, and does fly away and drag herself till she falls exhausted in a ditch. She dies in the harness. She is to be praised, and yet pitied. There ought to be a time for bees, or for men, when the days of hard labor should be crowned with a few days of rest and enjoyment; but the bees, like some men, enjoy nothing but hard work, to the last minute of their life.

Hancock Co., Ill.

Quoting the Honey Market.

(Continued from page 470.)

SELL HONEY THROUGH COMMISSION MEN.

EDITOR YORK:—I have sold honey extensively for the past 30 years on commission. From my knowledge of the business, and observation of the marketing of honey, if I were a bee-keeper I would place my product in the hands of a commission merchant to sell in preference to trying to sell to the "bargain hunters."

First, I would find a responsible commission merchant in a city of not less than 100,000 inhabitants—one who understood the grading and handling of honey, and had been engaged in it for a number of years, thereby having worked up a trade of regular customers that relied upon him for their yearly supplies.

Commission merchants in general lines of produce generally include honey in their price quotations, not so much expecting consignments of honey as to give general mar-

ket quotations on all kinds of country produce, which are not specific enough.

In every large city there are at least one or two commission merchants that make a specialty of honey-selling, who have a honey-trade, and know how to handle, who know what grades their customers want, and can generally place honey at good prices; while some dealer next door, not generally known as a honey-dealer, can't sell unless at a slaughter price.

Commission merchants in honey are as indispensable to the honey-producer as commission merchants are to the manufacturer of cotton or woolen, and about all manufacturing industries. For their goods are nearly all sold by commission merchants that know the trade and the wants of it better than the manufacturers do.

As in all lines of business, there are irresponsible commission merchants that should be avoided, but it is a very easy matter to find out the responsibility after you have found a practical honey commission merchant. Go to any bank and ask them to give you the financial rating, which they can do in the mercantile agency book. There is no excuse in these days for shipping to irresponsible commission merchants.

It behooves a responsible commission merchant to do his best for a consignment, for it is on his consignments he has to depend for his supply of honey. It is quite impracticable for the commission merchant to-day to buy his needed supply of honey. He can not afford to spend his time traveling the country over to buy, and to buy by sample is generally unsatisfactory.

The honey-producer should not begrudge the commission merchant his small commission of 5 percent, which is usually well earned by the risk of credit the commission merchant has to give; the risk of delivery to his trade safely; the risk of turning out as represented or shown, and coming back after he has made account of sale to the owner, etc.

Regarding quotations being always reliable and sure, that is impossible, for quotations, although based on actual past sales, are somewhat problematical. Selling honey, like all other produce, is governed more or less by circumstances. Some buyers are more bearish than others. It is not always possible or practicable to hold to a rigid price, but many times a small concession is advisable rather than let a hard buyer go.

It is not wise to quote honey too high, nor too low; better err on the side of too high, for quotations are seen by the buyer as well as the producer, and it is extremely difficult to sell above quotations.

I would avoid consigning honey to any commission merchant not strictly commission, or who bought honey more or less, for it is quite according to nature for such to sell their own purchased honey to the most favorable customer and best-price-paying customer, to the exclusion of consignments on which they make only a small commission compared with the profit they are making on their purchased honey.

It is quite the custom for bee-keepers, and they take a natural pride in selling the finest selection of their honey at home, or to some "finicky" groceryman that sells but little at best. The bee-keeper often in this way lowers the average grade or quality of honey. He sends the balance of his crop to commission merchants late in the season, and is oftentimes disappointed in his returns.

In selling honey, unless you sell at home for cash before shipping, you take much more risk than by consigning. If you sell your honey delivered at a distant city, the buyer is apt to be fastidious, and if he sees the least sign of drip, or leaking, or out of condition, will refuse to accept it and pay for it; and if he doesn't pay you at all he can go into bankruptcy and pay you nothing. While, on the other hand, if you consign the honey, and the commission merchant doesn't pay, you can send him to jail for conversion of property. When you consign honey a good plan is to write promptly and ask the commission merchant to write you on receipt of the honey, the condition it arrives in, and what he thinks it will sell at; also to send you two-thirds to three-fourths of its market value as an advance on the consignment, which any responsible commission merchant will readily do.

There should be a better understanding prevailing between the honey-producer and the commission merchant than there is. I do not understand why any party would want you to quote markets incorrectly or under price, unless they want to use the quotation to help them buy cheap in the country.

The quotations of honey in the various markets that you publish in the American Bee Journal must be a guide, and of great value to the many bee-beepers, in helping them to get a fair price from the home or country buyer. The fact that these quotations are made and signed by reliable dealers is more or less of a guaranty. Of course, the quotations must necessarily be somewhat expectant or prospective, and the prices governed by the supply and demand.

It would be a gross injustice, and entirely against the usuage of trade, to quote honey less than market. Your market quotations signed by those who furnish them is evidence with the witness furnished, while quotations without the authors' names is evidence without the witness.

H. R. WRIGHT.

MARKET QUOTATIONS ARE FOR WHOLESALE.

EDITOR YORK:—We notice that in the closing paragraph of your editorial on page 195, that you invite some of us who quote the honey market in the columns of the American Bee Journal to help enlighten "Rip Van Winkle." It would seem that there is little for us to do, for you have made about as complete a setting forth of the other side of the question as can well be done. We think that by the time "Rip Van Winkle" has been 20 summers instead of two summers bee-keeping in Cook County he may change some of his ideas; if not, he might as well "take another sleep," and that, of course, might be considered selfish, as it would tend to give the commission man a rest. But there is just about as much rest for the commission man as there is for the honey-bee when the flow of nectar is on. He must be "up and doing," or the labors of all concerned will fail to bear the fruitage that they should.

We do not know that that side of our life has been presented of late in any of the bee-papers, so we will call the attention of those who send goods to be cared for, that the commission merchant in the summer-time is at his place of business at 5 o'clock, and he does well to get away by 6 or 7 o'clock in the evening. For many years the writer kept up this pace, but now is not to be found on duty quite so early, nor always quite so late, still some one else has to represent him who has reached the maturer years. We find that the old do not run as many miles in a day in rounding up the affairs intrusted to him, but he often accomplishes as much by the short cuts that he has learned by careful attention to each day's experience, and thus he may be able to work out in 10 hours quite as good results as he did formerly in 18, by aiding others younger with counsel, so that in 9 or 10 hours he has accomplished a full day's work, and is entitled to the rest and recreation that a fairly well-spent life deserves.

Beginning with November the hours of the labor day gradually shorten until about 6:30 or 7 is as early as most of the stores open, but with April they begin to open at 5 to 6 o'clock in the morning for continuance during the summer.

The prices given at the request of the editors of the various bee-papers are for the figures obtainable for honey in the wholesale way, and not for honey retailed by the case or single package. There is in the Chicago market, as in all other cities, wholesale dealers, some known as receivers and others as jobbers; the receiver is supposed, in selling to a jobber, to get the market value of goods in lots, the jobber or wholesaler, on the other hand, varies his profits by the amounts taken by the purchaser, as a man buying a case of honey would not buy it quite as cheap as a man buying 25 or 100 cases would—there would be a difference of anywhere from ¼ cent to 1 cent per pound, according to the nature of the goods and trade.

Now, there are quite a number of so-called wholesalers who buy from receivers in the manner already described, and peddle it out as best they can from ¼ to 1 cent per pound profit, and their asking price is hardly ever their selling price, so that any one going along the market and pricing stuff is almost certain to get the extreme figures given in reply to his question; but if he is a bonafide buyer he will soon impress the salesman with that fact, and by practicing the usual diplomacy will succeed in purchasing for a little less than the original figure given (especially if the would-be buyer and the salesman are strangers to each other), for the day of bartering and haggling over prices has not yet become obsolete in the produce markets, while to a lare extent it has done so on the more permanent articles of trade, or those that are less liable to perish if not sold within a very short time after they have been placed on the market. A great many people find fault and say that the price asked should be the price that the seller is willing to take. In the abstract we quite agree with this proposition, but if we wish to live in the practical, every-

day world we must conform somewhat to the customs that prevail in our surroundings.

You give utterance to a well demonstrated fact, that it is better to be a little lower in the quotations given than a little higher than the actual conditions warrant, for these quotations are supposed to be given as a guide for those who have produce to place upon the market. It is the desire always of the commission merchant to quote as high as he dares (and sometimes he dares a little too much), for it is only natural, as society is now organized, that he should seek to get the goods to sell. It is much pleasanter to receive a letter from a consignor which reads: "You got for us the full market price for what we sent you," or, "You got us more than the market price," than it is to get a letter saying, "You did not get us even the market price, but a good deal less, and we don't think you have treated us right; we shall write to the bee-papers and tell them just what you are doing."

Now, the commission merchant's skin is not thicker than that on the alligator's back; therefore, an impression of a painful nature is sometimes made upon it, and by experience he learns (that is, if he wishes to become wise) to avoid as many of the disagreeable things as possible. For ourselves, we may say that we frequently discourage would-be consignors from sending us their product when we find that they think their goods should bring a little more than the quotations.

Very truly yours,
R. A. BURNETT & CO.

THE FACTS AS THEY ARE.

On page 195, we note the article from Rip Van Winkle, on "Quoting the Honey Market." Even if we are outside of the Chicago market we take exceptions to his statements, simply for the sake of truth and justice. The writer of that article certainly selected a fit name, when he signed himself "Rip Van Winkle," admitting thereby that he has been asleep for years, and is utterly ignorant of present conditions of commerce and trade. Furthermore, the man who is afraid to attach his name to any statement he makes, lacks the courage of his own convictions, and can hardly be taken seriously.

We endorse most emphatically every word of Editor York's reply, and especially where he says, "*It is better to quote a cent lower rather than a cent above the market.*" Exactly *this* has been our rule ever since we have been in the business, and the same has been generally appreciated by shippers.

The quotations we give in the journals are the market value, or, in other words, the selling price in quantity lots. In a small way, single cases or so, here and there, a better price is obtained, while, in a jobbing way, the price quoted is sometimes shaded in order to effect sale. This must be left to the seller's discretion and judgment. He is on the spot and must size up his customers, take into consideration the condition of the market, demand, supply, stocks on hand, etc.

If the market is well stocked, with more supply to follow, demand not brisk, and indications pointing towards a decline in price, the commission man is justified in making concessions; in fact, it is his *duty* to close out at a fair value, rather than to hold the honey and take still less later on.

We have had shippers write us that other parties had quoted better prices than ourselves, and wanted to know why we, being in the honey-business, could not do as well, or even better. We would answer that we could not conscientiously quote higher prices than we felt safe we could realize, and if they could do better elsewhere *that* was the place to ship to. Thus, we lost some shippers for a season or two, but invariably they would come back to us, and oftentimes admitted that they had made a mistake.

Again, if the market is overstocked with a certain grade, and no demand, we advise NOT TO SHIP; that we could not see our way clear to meet the shipper's expectations, and, rather than have complaints afterwards, we preferred not to handle the goods. If we quote, for instance, fancy white honey at 14 cents a pound, we feel confident that we can realize that price, and shippers can depend that returns will be made accordingly, provided, however, that the shipment comes up to the standard rules of grading. Quite often we receive honey marked fancy and No. 1, which is really no more than No. 2, or amber, to say nothing of the careless and slovenly way in which the honey is put up.

Only recently we received 14 cases of honey packed in two large dry-goods cases, no caution marks, and, consequently, they were handled rather roughly in transit. They appeared to be in good order, and we signed for them that way when we received them from the railroad company. In opening the cases there was not a whole comb in the lot. The straw had absorbed part of the leakage, and the heavy wood prevented it from oozing through the case. In notifying and explaining to the shipper, our trouble began, though it was wholly his own fault. Such cases are a tedious and thankless job, but we are glad to say that they are few with us.

Rip Van Winkle further says: "The commission man has the honey-producers in his grip, more especially when he is a buyer as well as a commission man;" and, "A buyer is always a 'bear' on the market." Rip Van Winkle does not seem to be aware of the fact that most bee keepers prefer to sell rather than to consign, which is but natural. If a bee-keeper sells his crop he knows exactly what he gets, and if the buyers are not willing to pay his price he is not compelled to take their offer. If he sells his honey his responsibility ends, and his chances end at once, whereas the buyer takes all the chances himself, and it is also but natural that he should want to buy as low as possible; but even if he thinks he has made a good purchase he is far from being sure of a profit.

Of all the honey we handle the most of it we buy outright. We know the shippers know how to grade their honey, and how they put it up, and we have no trouble in agreeing on prices.

Rip Van Winkle is absolutely wrong when he says commission men have the producers in their grip. The bee-keeper who has his honey in good shape will find no trouble in selling it. If one buyer will not pay him what he considers fair value, others will. The buyer knows he can not buy his honey for a song, and will not dare to make him any ridiculously low offer, for fear that some of his competitors will pay a better price; and, if he wants the honey he will pay fair market value for it. We have bee-keepers in New York State whose crop we have bought ever since we have been in business without a break. They are not "small fry," either, but generally come down with a good-sized crop, and one year brought to New York over 4000 cases. *They never even try another market*, knowing that they will always find us willing to pay fair value, and evidently they are well satisfied for us to have them "*in our grip.*"

On the other hand, there are some producers who are laboring under the delusion that *no other* honey is as good as *theirs*, no matter how inferior their own may be, and these are rather hard customers to deal with, especially so when they want to buy a few cases *themselves*. *These* are the ones who want to buy a single case or can at the *lowest quotations*, and even *less*, because they are *bee-keepers themselves*.

A bee-keeper wrote us the other day (seeing that we had new crop Cuban comb honey), that he would like to have a few cases, and offered us 10 cents (which was all he could pay), or 9½ cents for a full carrier; that he was an apiarist who was not going to pay Cuban apiarists fancy prices to the detriment of home apiculture. We refused his liberal (!) offer, having no intention of slaughtering the honey for his benefit.

No doubt some bee-keepers will disagree with us, but, their opinion to the contrary notwithstanding, we have given the facts as they actually are.

HY. SEGELKEN, of Hildreth & Segelken.

Only One Night to Denver.—By going over the Chicago & North-Western and Union Pacific railways, you will need to spend only one night on the road from Chicago to Denver. There is a daily train leaving Chicago at 10 a.m. on the C. & N. W., and leaving Omaha, Nebr., over the Union Pacific at 11:30 p.m. of the same day. This train arrives in Denver at 2 p.m. the following day. That is, by starting from Chicago at 10 a.m. on Tuesday, Sept. 2, you will arrive in Denver at 2 p.m. the next day, or Wednesday, Sept. 3, in ample time for the first session of the National Bee-Keepers' convention, which begins that evening.

Now as to rates: The round-trip price at that time from Chicago to Denver will be $25. By going over the route mentioned, the regular sleeping-car rate would be only $3.00, because of being only one night on the way.

There is also another saving by taking the C. & N. W. and Union Pacific. There is a Pullman tourist car on this train from Omaha, in which the charge for a double berth is only $1.50 to Denver. As no sleeping-car accommodations are required on this train east of Omaha, it will be seen that one can go comfortably by this route for a very small sum.

We may say that Dr. C. C. Miller and the Editor of the American Bee Journal expect to go over the route indicated, starting at 10 a.m on Tuesday, Sept. 2. Who will join us?

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Cross Colony of Bees.

I have a colony of bees that are so cross that I cannot handle them. They seem to be very lawless in other respects, such as building comb on top of the frames, and will not go up into the super. What is the best way to fix them? ILLINOIS.

ANSWER.—Change the queen. One would think that would only make the bees good-natured after all the bees of the old queen had died off, but I have found that when the queen of a very cross colony was replaced, there seemed to be a change in the temper of the colony in a very few days.

Saving Virgin Queens for Future Use.

I am just a beginner in the bee-business and would like to know how to save queens for the future, and keep them alive and have them fertilized at the same time. I had two nice queens from one I got last summer, but I could not save them, so if there is any way I wish you would tell me. MICHIGAN.

ANSWER.—The only way to save virgin queens and have them fertilized is to keep them in separate nuclei quite small by having division-boards in a hive, and keeping two or more nuclei in the same hive, so they can be mutually helpful in keeping up the heat. I have had as many as six nuclei in a 10-frame hive.

Why So Many Bachelor Bee-Keepers?

I have been greatly interested in reading the "Questions and Answers" in the American Bee Journal, but there is one question I would like to have answered, namely: Why are there so many bachelor bee-keepers? IOWA.

ANSWER.—Are there any more among bee-keepers than among other people? Perhaps bee-keeping is such an interesting pursuit that a young man is too much taken up with it to give attention to the little matter of looking for a wife, and then after he gets old enough to be on the list of old bachelors the law does not allow him to be killed. After all, I don't know that I'd want them killed off; there are some first-rate fellows among them.—[We thought it was because they were so taken up with their queens!—EDITOR.]

Did Well for a Backward Spring—Balling Queens.

1. I have run across something in handling bees that puzzles me. I set 5 colonies out in April, and they did splendidly, and by May 15 were strong enough to make 3 more new colonies, so I sent and got 2 golden and one red clover queen. All proved to be fine queens. The bees of one of the golden queens have stored about two 10 frame shallow extracting supers up to the present date. The red clover queen's bees have stored one shallow super full and one comb-honey super one-half full. Now I would like to know what you think about this for this backward spring? Is that doing well, or just fair?

2. When I opened the hive of one of the golden queens last week I found the bees balling her. I took her away from them and caged her, and took 2 frames of brood and bees from the hive and started a nucleus with her. Did I do right or not?

I found one of the old colonies with the old queen doing the same, and when I smoked the ball they stung the queen and she died. What made the bees ball the queen? and why did they sting the queen? They had not started any queen-cells when they balled her. MINNESOTA.

ANSWERS.—1. For a backward spring that is doing remarkably well.

2. If I understand correctly, the queen had been in the colony a good many days, in which case you went to unnecessary trouble. When I have opened a hive I have in a number of cases had the bees ball their own queen. In every case I have closed up the hive as quickly and quietly as possible, and when I have opened it on a later day have found the queen all right. When you opened the hive the bees were alarmed and balled the queen to protect her; at least that is the way it seems. When you smoked the ball, the probability is that you blew hot smoke upon them. Hot smoke will make a ball of bees sting a queen, whereas if let alone it is a very rare thing for a queen to be stung. Even when the bees feel the most bitter against a queen they do not sting her, but keep her in the ball till she dies of exhaustion or starvation.

Requeening.

In clipping my queen's wings I lost one; I have twice given the colony a frame containing eggs, larvæ and brood, hoping that they would rear a queen, but they have not met my wishes. The colony has been queenless a month. Can I requeen that colony? and, if that can be done, how shall I proceed to accomplish it? IDAHO.

ANSWER.—Perhaps the best thing is to break up the colony, dividing the brood and bees among weaker colonies. If, however, you are anxious to continue the existence of that particular colony, give it some brood and bees from other colonies and then give it a caged queen.

Moving Bees on a Wagon.

I have 40 colonies of bees that I must move this fall a distance of 20 miles. Please advise me how to prepare them for the journey, over an ordinary wagon-road, about what time to start, and how I should fix the wagon on which I move them. IOWA.

ANSWER.—Better wait till the weather is pretty cold, but the weather should not be freezing very hard lest the combs become brittle and break. Close the hives bee-tight, but provide for plenty of ventilation. If your bottom-boards give an entrance two inches deep, all the ventilation needed in cool weather is to have the entrance closed with wire-cloth. If the entrance to your hive is very small, it is better to have the top of each hive entirely covered with wire cloth, a frame to fit the top of the hive being covered with it. The easiest available thing for you, in the absence of something specially made for the purpose, is to use a wagon with a common hay-rack. Put a foot or so of straw or hay on the bottom of the rack to break the force of the hard jolts. Possibly you can borrow a pair of heavy springs that can be put under a hay-rack.

Swarming Difficulties.

I have some bees that have knocked all the theories that I can find in two bee-books into a cocked hat, and I want to know if you will put a little of your bee-philosophy on it throught the columns of the American Bee Journal.

Wednesday, July 2, a prime swarm issued from hive No. 4, and settled where we had to let it go. Monday, July 7 (5 days after) a second swarm issued but returned to the hive; 6:30 a.m. Tuesday it issued again, and again returned; 10:30 a.m. Tuesday it issued the third time and settled. I got them well hived and contented all but a "hat full," which I supposed would go back to the new hive on the old stand. But they fooled me. Tuesday night there was a hard wind and rain. Wednesday, more rain, and hat full still in tree. Thursday, rain and bees still in tree. I concluded to capture them (thinking they must have a queen also), and put them in an observation hive. I fixed this with an empty brood-comb into which I poured some honey-syrup for bait. I shook apparently all the bees into a bag and thence into the hive; but no queen. Some clustered again and were shaken off a second time, and into the hive. At this point I got tired and have left them alone to do as they wish.

The present state (12 m. Friday, July 11) is: Main swarm—contented in hive; in observation hive—handful left and very restless; no queen. In tree—(75 hours)—same old hat full in same old place.

Now what I want to know is:

1. Why did this second swarm issue in five and six days

after the prime swarm, when, according to text-books, no well-brought-up bees should have a queen for at least seven days?

2. Do second swarms ever have two queens? and does that account for those remaining in the tree?

3. What is the record of time for bees hanging in a cluster?

I intend to gives the bees in the observation hive a comb of brood with a queen-cell, but—

4. In case I didn't, what would the bees do? and what are they staying for, anyway, without a queen?

ILLINOIS.

ANSWERS.—1. A second swarm issues about eight days after the issuing of the prime swarm, because about that time the young queen is mature enough to leave. If, however, for any reason the issuing of the prime swarm is delayed, then the time between first and second swarm will be shorter. The first swarm may be delayed by the weather two or three days, possibly by some other cause, and in that case the second swarm will issue at just the same time it would have issued if there had been no delay on the part of the first swarm. Of course, that will reduce the length of time between the two swarms. Indeed, it is possible that there might be an interval of only a day or two between the issuing of the first and second swarms. The old queen might be too heavy to fly at first, or she might be utterly unable to fly, as in the case of a clipped queen. So the swarm could only return when it issued, and come out again, and if you did not happen to see it issue except the last time, you might think there was only a day or two between the prime and second swarms.

2. Yes, second swarms sometimes have a good deal more than two queens, and it would not be a hard thing for part of the swarm to be separated from the rest with one of the queens.

3. I don't know. I never knew a cluster to hang more than two weeks, and that was a very small cluster without a queen. A stray swarm was hanging on a tree one day when I was driving to an out-apiary. The swarm was small and of no great value, but the owner of the tree was rather insistent that we should take the swarm away. My assistant took it in her bee-hat to the out-apiary. On our return home we found a small cluster still on the limb. They had probably been out foraging when we took the swarm away. I think the little cluster staid and dwindled away.

4. Those bees on the tree may have a queen, and having been kept there by stress of weather so long, they may have become reconciled to the situation, and if left alone they may remain there all summer.

When to Sow Sweet Clover Seed.

When is the best time to sow sweet clover as a honey-plant for 1903? MICHIGAN.

ANSWER.—Sow sweet clover when other clover is sowed in your locality. Probably most sweet clover is sown in early spring, at about the time for sowing oats, but if convenient it might be well to sow in the fall and have it well tramped in. But if you want sweet clover to yield nectar in 1903, you must sow it right away, immediately, quick, so as to have it grow this year. Doubtful whether you can get it to do that. It does not blossom till the second year of its growth, and the winter after blossoming it dies root and branch.

A Vermonter's Seven Questions.

1. Do you prefer golden, leather-colored, red clover, or honey queens, for honey-production?

2. Do you prefer Danzenbaker or Langstroth hives for comb-honey production?

3. Would a queen bred in Texas do as well in northern Vermont as a northern bred queen?

4. Which do you think would be more profitable here, comb or extracted honey?

5. Is it necessary to put on perforated-zinc honey-boards between the super and the hive for comb honey?

6. Do you clip your queen?

7. How do you get your bees ready for winter?

VERMONT.

ANSWERS.—1. I prefer the queens that will assure me the greatest profit, under whatever name or garb they may appear. It is not easy to answer your question categorically, for what may be best in one place may not be the best in every other place. I like much the appearance of the goldens, but the ones I have had have not excelled others in storing. All goldens, however, may not be alike. Leather-colored and their grades have given excellent satisfaction. The term "red-clover queen" has been used as applying to different strains, and I am not sure I can say very definitely just how much bees have ever done for me on red clover. Honey-queens, as already intimated, are my preference, if by that term is meant bees that give best results in the long run. But between you and me, I suppose there is a lot I haven't yet learned about such things.

2. I prefer the Langstroth.

3. I think the general testimony is that she will do just as well, although one might naturally expect a little more hardiness in bees bred for a long time in the severer climate.

4. As a rule, probably comb, although the right man and the right management might make the most out of extracted.

5. It is not necessary in this locality when separators are used and full sheets of foundation in sections.

6. Always.

7. I don't get them ready. They are carried into the cellar, cover, bottom and all, just as they were on the summer stand. Some time, however, before it is time to take in cellar, the false bottom has been removed from each hive, leaving a space two inches deep under the bottom-bars.

Bees Visiting Out-Houses and a Planing-Mill.

1. What will keep the bees from visiting out-houses? and what do they go there for? I keep the weeds and grass from the hive fronts by sowing salt, but still a few bees visit the out-house; I do not know why they go.

2. My bees in early spring made trouble at the planing-mill, which is some 4 or 5 blocks away. What can be used or done to cause them to stay away? IOWA.

ANSWERS.—1. It is generally supposed that they go for the salts to be found in such places, but it is not certain that such is the right view. It is not disproved, however, by the fact that all the salt needed lies in front of the hive. Set a dish of water at the entrance, and you will still find some bees going off a distance to get water. Perhaps you might try giving the bees a watering-place where they could at all times find water somewhat salty. You see, the salt in front of the hives is wet only part of the time, and dry salt would hardly answer.

2. In early spring, bees quite often gather sawdust as a substitute for pollen. Give them something better to work on, as ground corn and oats or other feed.

White-Eyed Drones—Queen-Excluders on in Winter.

1. To what race of bees do white-eyed drones belong? I have never seen any drones with white eyes before. I saw the first one about 5 weeks ago—found him in the yard, then I watched every hive but could not find any more, but in a few days I noticed two in front of one hive, then more and more, but only in the one hive. This colony is extra-strong, and is storing lots of honey in the third story, keeping ahead of 18 other colonies.

2. Can I leave a queen-excluder over an 8-frame lower brood-chamber all winter? or must it be taken away? My hives are all two-story 16-frame during the winter, and I would like to leave the queen-excluder on during the winter, if possible. KANSAS.

ANSWERS.—1. To no particular race. Drones with heads of unusual coloring may occasionally be found among bees of any kind. Just why drones should be tricked out in fantastic colors, and never workers, seems to have no satisfactory explanation.

2. Certainly, there is no reason why you can not leave excluders on all winter. Don't be afraid to ask all the questions you like. That's what this department is for.

Trouble in Introducing a Queen—Feeding Bees.

1. I received a red clover queen but the bees do not want to accept her. They started a lot of queen-cells, and when the candy was taken out they wanted to kill the queen. What can I do with her?

2. I am taking care of bees of a man 5 miles from here, and the grass-hoppers have taken all the bloom from the

alfalfa so that the bees must be fed. While I can't get honey what shall I feed them? and how? SOUTH DAKOTA.

ANSWERS.—1. Keep the queen caged; take two frames of brood and bees from the queenless colony and put them in an empty hive on a new stand; after they have stood there 24 hours give them the caged queen and at the end of another 24 hours free her, when you will probably find that the bees will treat her kindly. In the meantime all the queens-cells should have been destroyed in the colony and in the nucleus. As soon as the queen is kindly received by the nucleus, return nucleus, queen and all to the colony. Another way, a little more troublesome, is absolutely safe. Take frames of sealed brood with young bees just emerging, shut them in a hive bee-tight, first putting the queen on the brood. Keep the hive in the house where it is warm if the weather is at all cool, or else place the hive over a colony of bees with wire-cloth between, so that there is no possibility of a bee getting from one hive to the other. In five days the hive may be set on a stand of its own and the entrance opened, and then you can strengthen it gradually from the queenless colony or from other colonies, the same as you would strengthen any weak colony. It is possible that when you first gave the queen to the queenless colony it was at a time when no honey was coming in. If so, it would have helped matters to have fed the colony.

Feed them granulated sugar. The most convenient way is perhaps with a Miller feeder, taking equal parts of sugar and water (either by weight or by measure). If you have no feeder, use the crock-and-plate plan. Take a gallon stone crock and put into it equal parts of sugar and water stirred together. Lay over the crock a woolen cloth of five or six thicknesses of cheese-cloth. On this put a dinner-plate upside down. With one hand on the plate and the other under the crock, quickly turn the whole thing over. Set it on top of the frames, put over it an empty hive-body, covering it up so no bee can get in except through the colony, and the bees will do the rest.

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Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North.

The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

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Our Breeders originated from the highest-priced, Long-Tongued Red Clover Queens in the United States.

Fine Queens, promptness, and square dealing, have built up our present business, which was established in 1888.

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	1	6	12
Selected	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	9.00
Selected Tested	1.50	8 00	
Extra Selected Tested, the best that money can buy	3.00		

We guarantee safe arrival, to any State, continental island, or any European country. Can fill all orders promptly, as we expect to keep 300 to 500 Queens on hand ahead of orders. Special price on 50 or 100. Free Circular. Address all orders to

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75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

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Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

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BEEDOM BOILED DOWN

Transferring Bees.

To transfer bees in midsummer I don't think a better method can be devised than to drum the bees into a box, set the new hive, filled with worker-combs, or full sheets of foundation, on the old stand; place a queen-excluding zinc on the new hive; over this place the old box, in three-week's time slip a bee-escape board under the box, and when the bees have all gone down, take the box off. It will then have nothing but the combs and what honey may be in the comb, no bees to mash, no brood to kill, and all the brood hatched out and added to the hive's army of workers.

The foregoing is given by E. H. Schæffle in the American Bee-Keeper. There is a possibility of misunderstanding on account of the repetition of the word "box" which after the first time has reference to the old hive. The understanding is that after the old hive has been placed on the top of the new one, the bees are run from the drumming-box into the new hive.

Bee-Keeping in the Sandwich Islands.

On the island of Oahu, the greater part of the honey is produced. There are two large corporations there; one is incorporated for $65,000 paid up capital, with a bee-privilege of 75,000 acres. They produce a large amount of honey and ship mostly to London. The other is not quite so large, but they produce and handle a lot. There are quite a number of persons, both white and Japanese, also in the business. The bees are imported Italians and, of course, hybrids, as well. The wild bees (of which there are a large quantity on on the islands) are black or German brown bees.

Our honey-source, that is, the best quality (light amber) comes from the kauvi or algeroba, which blooms more or less nine months in the year, and the honey is fine-flavored. There are also a great many weeds and much lantana, which gives a dark honey at certain seasons.

On Hawaii, 150 miles, a little south of east, from Oahu, the principal honey district is Kona, situated on the southern or lee side of the island, sheltered from the strong northeast trades, but having a cool land-breeze at night, while during the daytime the breeze comes from the sea. There are lots of Japs in the business and they make 10-frame hive out of anything that comes along, from a coal-oil box to a 2-inch plank, and also use Hoffman frames.

The Japs thought all they had to do was to get a hive of bees, put a super on, and when

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st Send for circular.

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We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
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White Clover	1.20	2 30	5.50	10.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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the super was full cut the honey out and squeeze out by hand, then sit down and eat and smoke till the super was full again; but most of them found to their sorrow that that was a losing game; and now there are only a few who have stayed with it and got extractors, etc. I know of two who run 200 colonies and understand the business quite well; although one cannot impress upon them the necessity of getting good queens—any queen is good enough for them.—H. H. SMYTH, in the American Bee-Keeper.

Fastening Foundation in Sections.

For this purpose it is a paying investment to have a good machine such as the Daisy foundation fastener; but some with a very small number of sections may care to know the plan given by G. F. Herman, in the American Bee-Keeper:

For this purpose we use a board with four blocks nailed on it, ⅞ of an inch thick by 3⅞ inches square. This size is for the standard section which holds about one pound of honey. When we pick up four sections at one time and place them over the four blocks. The sections being on their edge, lay in the one-inch starters, or full sheets, just as preferred. The blocks bring the starters just midway in the sections.

We next dip the piece of tin into the heated wax and touch the starter and sections at the uniting point, holding the starter in place with the left hand, withdrawing the piece of tin instantly, as it only requires a touch and the work is done. If full sheets are used we dip twice, touching the top and one side and leaving one side and the bottom loose for expansion.

The size of the piece of tin used in the operation is 3 6-8 by 5 inches with a perfectly straight edge. The receptacle to hold the heated wax is a small sardine-box 2¾ by 4 inches, kept about one-third full of wax and placed over a small hand lamp with a tin chimney, having the top nipped in a little and then bent out to form a crown which will give vent to the burning lamp when the pan of wax is placed on top.

Comb Honey and Excluders.

Some say that in producing section honey excluders are unnecessary; others say that without them the queen is sure to lay in the sections. M. F. Reeve having said in the American Bee-Keeper that excluders were indispensable, Dr. Miller replies in that journal:

For a long time it puzzled me to understand how there could be the difference, but I think I have solved the mystery. Nowadays there is little or no drone-comb left in the brood-chamber, and the bees make desperate efforts to secure drone-brood. More than once, when using 10-frame hives, I have known the queen to go outside the brood-nest and lay eggs in a patch of drone-comb, leaving one or two combs without any brood between this patch of drone-brood and the worker-brood of the brood-nest. You will notice that Mr. Reeve especially mentions that in his supers he found "the nicest lot of capped drone-cells." I am not certain whether this was in working for comb or extracted honey, and it doesn't matter; he says at the outset that excluders are necessary for either. If I am not greatly mistaken the queen goes into the super to lay because the workers have there prepared drone-cells for her.

If they go up into his supers to rear drone-brood, why don't they do the same thing for me? Simply because there are no drone-cells in mine to bait the queen up. I use top and bottom starters of worker foundation, filling the sections entirely full. If I should use small starters I would consider excluders indispensable.

I would not think of working for extracted honey without excluders, for even if only worker-comb should be in the supers there would be at least part of the time empty comb there, and whenever the queen should be a little crowded for room she might find her way up. When working for comb honey, I

Bee-Keepers—Attention!

Do not put your money into New Fangled Bee-Hives, but buy a plain, serviceable and well made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

Thousands of Hives, Millions of Sections, ready for **Prompt Shipment.**

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BUCKEYE STRAIN OF 3-BANDED LONG-TONGUES are wonderful honey-gatherers. One customer bought 10 dozen. Just think of it! (He bought a few last season as a trial.)

MUTH'S STRAIN GOLDEN ITALIANS.

As fine as money can buy. Either of the above by return mail, 75c each; 6 for $4.00. Selected tested, best money can buy, $1.50.

FULL LINE OF THE FINEST DOVETAIL HIVES AND SUPPLIES. Send for Catalog. THE FRED W. MUTH CO.,

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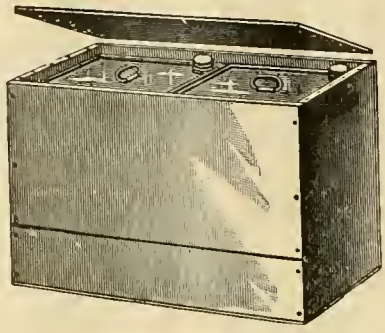

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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Queens Now Ready to Supply by Return Mail

Stock which cannot be excelled. Each variety bred in separate apiaries, from selected mothers; have proven their qualities as great honey-gatherers.

Golden Italians Have no superior, and few equals. Untested, 75 cents; 6 for $4.00.

Red Clover Queens, which left all records behind in honey-gathering. Untested, $1.00; 6 for $5.00.

Carniolans —They are so highly recommended, being more gentle than all others. Untested, $1.00.

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Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

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28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

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should want excluders, unless there was so much drone-comb in the brood-chamber that there would be no desire to have any elsewhere, or unless the sections were so filled with worker foundation that there was no chance for drone-comb above.

GENERAL ITEMS

Pretty Good Sweet Clover Flow.

We have had bad weather throughout June. The bees were starving the last part of June, and the first part of July I fed 360 pounds of honey to my bees. The last 10 days there has been a pretty good honey-flow from sweet clover. JOHN EENIGENBURG.

Cook Co., Ill., July 18.

Thinks Minnesota all Right.

Bees are doing well in my locality. I have 2 hives with about 150 pounds on each, and others with from 100 pounds down to 25 pounds, and lots to come yet, as we have a good honey-yield in this locality in the fall.

I am sorry to hear of so many failures in other States. I think Minnesota is all right.

P. H. DAVIS.

Hennepin Co., Minn., July 17.

An Old Beginner's Report.

I am a beginner in the bee-business. I found a colony in a tree last October and wintered them; they were Italians. This spring I traded and got 6 colonies of blacks, and in old hives with racks, but the combs were in every shape. I transferred them into new hives which I made, and in 3 weeks I divided 2 of the colonies, and put 3 frames of brood and adhering bees into a hive and 3 frames of brood foundation, on May 28, and on July 9 they cast a nice swarm, and I hived them on brood foundation. The Italians cast their first swarm July 4, and to-day, when they swarmed out the air was alive with them for about 20 minutes, then they returned to the old hive that they issued from, and went to work as usual.

My bees are doing well this month, so far; white clover is in profusion here, the most for a great many years. It has been very warm for 2 weeks or so, with occasional rains. One of the old colonies that I divided cast a swarm July 11, so now I have 10 colonies, and I sold one.

To-day I hived 2 more swarms; one was a second from the Italians, and they came out again yesterday about 3 o'clock, and after a while they returned to the old colony from which they issued; this morning they came out and settled on a small birch and I hived them. D. B. BOYNTON.

Oxford Co., Maine, July 14.

Too Much Wet Weather.

My bees are doing fairly well. There is an abundance of white clover this year, but the weather has been unfavorable, too many dark, wet and windy days, but when we do have a nice day the bees fairly make things hum.

Last year I got 825 pounds of honey, mostly extracted, from 5 colonies, spring count, and increased to 8 colonies. I thought that was doing pretty well for a greenhorn.

I will send you a report of this year's crop later on. G. GLEYSTEEN.

Sioux Co., Iowa, July 19.

Heavy Rainfalls and Washouts.

During July, so far, we have had a little good weather, and so our bees have secured a small amount of surplus honey. But now the season has closed.

Within 10 miles of us some of the friends have secured a large crop, so I hear. Basswood was not frozen in these localities.

I established a small yard about 14 miles

north of me, for an experiment. If I had been there with my home yard I undoubtedly would have made a nice thing, but as it is I did not know just what was going on, and lost some by neglect in this yard of 15 colonies.

The quality of our honey is very good, in fact it is better than I have ever had, in this section, except during 1881.

We still have great a deal of rain, more than we have sunshine, but it is warm.

You have probably heard of the immense waterfalls in New York State. We have suffered greatly from washouts here, some of our crops being seriously damaged; roads have been torn out, and bridges washed away. Between my home and the out yard north of me (mentioned above), 8 or 10 bridges were washed out; the roads last Monday (July 7) were almost impassable, in some places entirely so. Our little town is damaged in roads and bridges not less than $6,000. A few farms have been completely ruined; some stock and a few lives were lost. F. GREINER.

Ontario Co., N. Y., July 12.

Report of White Honey Crop.

As I am anxious to know how the honey crop is in other places, I thought best to report for this location. I had 78 colonies in the spring, increased to 112, have taken off 2,500 pounds of honey and think there is 1,500 pounds on the hives now.

The season was cold up to the first of July, except during apple-blossom, when we had a few warm days. White clover is the main honey-plant here, as the basswood has been nearly all cut down. D. L. FILES.

Monroe Co., New York, July 21.

Poorest Prospects in Years.

The prospects for a honey crop in San Diego County are the poorest they have been for a number of years, but I think the bees will go through the winter without feeding.

We have had cold and dry, and hot and dry, so the results of honey-secretion are bad, although the flowers were in a fine, healthy condition. MAYNARD D. NICHOLS.

San Diego Co., Calif., July 17.

Hot and Dry in Texas.

Bees in this section are not doing very much. We have had hot, dry winds that have dried up all the nectar. I have been feeding my bees for two months, but since the rains all vegetation has commenced growing, and bees will store until frost.

MRS. C. R. WEST.

Ellis Co., Texas, July 14.

A Handshake for Dr. Gallup.

Dr. Gallup, here is my hand—shake. You have voiced my sentiments in full, and to the letter. I have read your series of articles on queen-rearing with great interest, and they are so closely in touch with my experience that I fully endorse every word.

I have bought many queens that I well know were reared by small swarms or nuclei, as they were of no value whatever, and some were superseded within two months after being received.

I would like to hear your impressions of some of the other fads, as long tongues, for instance; also as to the exactness of spreading frames to 1¾ inches from center to center; but more particularly the long tongues.

Give me queens reared at home, in full, strong colonies, under the swarming impulse, and I will compare notes with any and all, both long-tongued men and bees. This may look a little strong to some of the queen-breeders, but perhaps the "truth should be spoken at all times."

All my short-tongued bees did nothing until July 2, and were starving June 25 and 27. Why? Because there was nothing in the flowers to get, and if there had been they could not get out to get it, as it rained almost every day and night, and was so cold the entire month of June. On July 2 they commenced to roar, and have kept it up to the present time, and are now commencing in the supers. I am inclined to believed the long-tongued bees have not done much better.

I had four swarms in May, and nothing since. A. Y. BALDWIN.

DeKalb Co., Ill., July 14.

QUEENS!

KIND FRIENDS: I have been too busy filling orders to advertise much, but have caught up with orders now and can fill orders by return mail. I have **500 QUEENS**—either 3 or 5 banders—Untested, 60 cents each; Tested, $1.00 each. My bees are **the Finest in the Land.** To those who have never tried them, I will ask to give them a trial, and see what **GOOD QUEENS** I am sending for so little money. This ad. will not appear again. Remit by postal money-order to

DANIEL WURTH, Garyville, Tenn.

100 Lbs. of Comb Honey

—PER COLONY—

is the record of our bees thus far this season. We sell Queens at the following prices: Untested, 75 cents each; ½ doz., $4.00. Tested, $1.00; ½ doz., $5.00. All Queens will be sent by return mail.

LEININGER BROS.,

31Dtf FT. JENNINGS, OHIO.

"What Happened to Ted"

BY ISABELLE HORTON.

This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address,

ISABELLE HORTON,

227 EAST OHIO STREET, CHICAGO, ILL.

Please mention Bee Journal when writing

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, JOHN THOEMING.

MONTHS	July and August.		
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00
GOLDEN QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00

Select tested, $2.00. Breeders, $5.00 each.

2-frame Nucleus with Untested Queen, $2.25 each; 3-frame Nucleus with Untested Queen, $3.00 each; 6 for $2.75 each.

D. J. BLOCHER, Pearl City, Ill.

27Atf Please mention the Bee Journal

DAIRYMEN ARE DELIGHTED

to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.

DRAPER PUBLISHING CO., Chicago, Ills.

NOTICE.

The special round-trip excursion tickets announced from Chicago to New York City, Atlantic City and other New Jersey Sea Coast resorts on July 31st, Aug. 7th and 14th, 1902, via the New York, Chicago & St. Louis Railroad Co., under the headings of "$18.00 to New York City and Atlantic City and Return," and "New York and Atlantic City at $18 00 for the Round Trip," by the Nickel Plate Road July 17th and 31st, and Aug. 7th and 14th, with return limits of 12 days, is hereby withdrawn and the rates abrogated.

40—31A1t

Please mention Bee Journal when writing advertisers.

Cold, Wet, and Windy.

I have said that nothing short of an earthquake swallowing up all of Sioux County would keep my family and me away from Denver, in September; but too much cold, too much wet, too much wind, and a whole lot of other "too muches" may make me change my mind yet, though I will not give up until the last minute.

May was cold, but the bees built up fairly well; June was windy, cool, cold, colder, and fairly dry, for the first half, and the remainder was wet, wet, wet, and it appears to be getting wetter all the time. The bees work well when a few hours of suitable weather shows up. Pasturage could not be better, but the weather—O my!

You should have seen me "spreading" myself early June 26, after the tornado had spread itself, and somewhat, well, considerably, spread the bees and bee-hives. The bees got such a "jouncing" (and it wasn't any of Rambler's make-up, either) and soaking that they made very little trouble while I was straightening things up. Broken trees, chimneys, windmills, and an occasional building, were common. F. W. HALL.

Sioux Co., Iowa, July 8.

Bees Hustling.

Bees are booming now and swarming at a fearful rate. We are getting from 10 to 15 swarms a day, and no stop to it. Some of the colonies gained from 5 to 10 pounds in weight per day, so prospects are grand at present. If the weather would keep hot and dry for about two weeks we would have 100 pounds per colony. I hope it will be so.

Cook Co., Ill., July 12. A. WICHERTS.

Hard Year on Bees.

This is a hard year on the bees; such unfavorable weather, all of the earliest young queens lost in mating. Honey will be a very light crop in this section, although there has been an abundance of nectar.

I have 92 colonies, and about one-half the amount of honey I had last year with 80 colonies. C. H. HARLAN.

Kanabec Co., Minn., July 15.

Average Crop of Honey.

My bees have stored an average surplus up this date. The white honey harvest is completed in this locality.

I use a horizontally divisible brood-chamber, and shall, as usual, put the supers containing unfinished sections between the upper and lower parts of the brood-chamber. The bees will, in most years, finish them from the fall honey-flow.

I suppose all the "convention" that we small fry bee-keepers will enjoy this year is the talk we may indulge in near the honey exhibits at State and County fairs.

P. O. WESTRUM.

Hamilton Co., Iowa, July 21.

Expected Crop Failed to Appear.

They say in California the unexpected is ever popping up, like Banquo's ghost. This is exemplified in the present season's honey crop. I have often praised California as a honey State, or the paradise of the bee-keeper, because he could divine at the beginning of each season, knowing the rainfall, whether or not a honey harvest would be realized, and thus make, or not make, all due preparation. I must say now that this, like all rules, has its exception. From the rainfall, we had every reason to expect a spendid honey harvest this season The early promise was fine, and I made what I thought was a safe prediction of a very generous harvest. The results are severely disappointing.

About here we have done better than in

—ITALIAN—

BEES AND QUEENS!

We have a strain of bees bred specially for honey-gathering and longevity. We feel confident of giving satisfaction.

PRICES for the remainder of this season:

1 Untested Queen .....$ .60
1 Tested Queen ..... .80
1 Select Tested Queen ... 1.00
1 Breeding Queen 1.50
1-Comb Nucleus, no queen 1.00

J. L. STRONG,

204 East Logan St., CLARINDA, IOWA.

25Atf Please mention the Bee Journal.

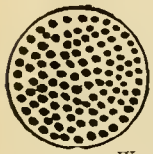
California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, SAN FRANCISCO, CAL.

CAN YOU COUNT DOTS?



If you can, send your name and address for a sample copy of the best farm paper published and particulars of our great dot counting contest. Every person who counts correctly gets a prize, while those who count best get cash prizes from $1 to $125 and a $700 piano. We are giving away **$2,500 in Prizes.** Send name on Postal to-day for free particulars. Address,

UP-TO-DATE FARMING AND GARDENING,
30A4t Box 84, INDIANAPOLIS, IND.

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Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

$5 TO START YOU IN BUSINESS We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.

DRAPER PUBLISHING CO., Chicago, Ills.

Please mention Bee Journal when writing.

Italian Queens —bred for business, by the best methods, and from the best honey-gathering stock. My bees are free from disease, and are hustlers. No small or inferior queens sent out. Untested, 75c; tested, $1

28A4t D. E. ANDREWS, Bloomington, Ind.

Please mention Bee Journal when writing.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

most places, but even here the crop is light, not more, surely, than one-third or one-half that of last year. In some of our best honey sections, like parts of Riverside County, or about Perris, there is no crop at all. I think the cause of this is in the cold weather. An overcoat has been in demand all the spring. A little fire in the house each morning has been relished most of the time. The same cold, I think, is making the oranges drop badly. Thus, while our friends in the East are mourning the dearth of honey because of excessive rain, we will join in the lament, and charge up our misfortune to the cool weather, which has been very delightful.

A. J. COOK.

Los Angeles Co., Calif., July 8.

Will Plan for Fall Flow.

The rain seems over; 4 inches fell on Friday night. The ground is full of water. No sections completed.

We have had only three warm days, and not a warm night; it is 55 degrees at 7 a.m. To-day it seems as if it would be warmer.

Clover is in full bloom, and may give 24 sections of honey per colony. I shall begin to plan for a good fall honey-flow.

JOHN C. STEWART.

Nodaway Co., Mo., July 21.

Yellow Sweet Clover—Sainfoin.

Bees here are behaving splendidly, gathering in plenty of nectar. Yellow sweet clover came into bloom June 8, here this year, and is still in blossom, just meeting the white sweet clover, the two making a constant bloom of over three months; and if the white clover is cut just as it comes into bloom, a much longer period.

Yellow sweet clover does not grow nearly so tall as the white sweet clover, and is of a finer nature. It is not so thrifty on very poor soil as the white sweet clover, but perhaps after it has been in the ground some time it would improve. Every day I see evidence that cattle will eat sweet clover when they have learned to eat it.

This year I put in a small plat of sainfoin clover seed; the plants came up and some of them blossomed; it is quite a thrifty plant, making a heavier growth for the first season than red clover, and the stalks are not nearly so coarse as the red clover, but seem to carry a greater amount of leaves. Of the few blossoms that came out I did not notice any bees on them, but they have such a feast here this season that it would be hard to get them to look at small things.

I got a farmer friend of mine to try some of this clover seed this spring, and he thinks it is a good fodder-plant; however, we will know more about it next year, if all goes well, as I shall try to put in a larger piece of ground. It is altogether unlike any other clover in appearance that I have ever seen.

I notice the Ontario Agricultural College, at Guelph, reports on it this year, and it seems to be as good as any of the clovers. Give it a trial, in a small way at first, and see what you can make of it. You will need to plant the seed deeper than other clover seeds, as it is very large. W. D. HARRIS.

Ontario, Canada, July 14.

Superseding Queens—Starved Bees.

We have been having a honey-flow from some source for about 15 days. This was unexpected. It is less than 10 days ago that I was feeding some starving colonies, but at the time I was feeding these the strong colonies in the yard were storing quite rapidly without my knowledge, as I was then unable to give them the attention demanded. Swarming from these strong colonies commenced about a week ago, and has kept up until now. I had to hustle in order to hive the swarms, and keep the bees provided with storage-room. This I have done without help, but I have had to work and think all day, and then think all night, with the exception of a few cat-naps, in order to do it. Fortunately, I was provided with a good deal of storage in the shape of drawn comb, both brood-combs

Tested Adel Queens.

Reared by a New Method. Queens very large, prolific and handsome. One Queen, $1.00; three Queens, $2.75; six Queens, $5.00; twelve Queens, $9.00. Everything guaranteed.

HENRY ALLEY,
26Atf WENHAM, MASS.

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THE STRONGEST

friends PAGE FENCE has, are the people who have used it longest and tested its merits.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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Low Round Trip Rates, via Union Pacific, from Missouri River,

$15.00 To Denver, Colorado Springs, and Pueblo, Colo., July 1 to 13, inclusive, Aug. 1 to 14, 23 to 24, and 30 to 31, inclusive.

$19.00 To Denver, Colorado Springs, and Pueblo, Colo., June 25 to 30, inclusive, July 14 to 31, inclusive.

$25.00 To Salt Lake City and Ogden, Utah, Aug. 1 to 14, inclusive.

$25.00 To Glenwood Springs, Colo., July 1 to 13, inclusive, Aug. 1 to 14, 23 to 24, and 30 to 31, inclusive.

$30.00 To Salt Lake City and Ogden, Utah, July 1 to 13, inclusive, Aug. 23 to 24, and 30 to 31, inclusive.

$31.00 To Glenwood Springs, Colo., June 25 to 30, inclusive, July 14 to 31, inclusive.

$32.00 To Salt Lake City and Ogden, Utah, June 25 to 30, inclusive, July 14 to 31, inclusive.

$45.00 To San Francisco or Los Angeles, Calif., Aug. 2 to 10, inclusive.

$45.00 To Portland, Oreg., Tacoma and Seattle, Wash., July 11 to 21, inclusive.

Correspondingly Low Rates From Intermediate Points.

Full Information Cheerfully Furnished on application to

E. L. LOMAX, G. P. & T. A.,
27Atf OMAHA, NEB.

Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
Chicago, Ill.

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Please mention Bee Journal when writing.

and unfinished sections, and so I have been able to handle the crop so far.

Storing is interrupted now on account of the heavy rains. This will probably insure a full flow of more than usual magnitude.

I lost quite a number of colonies, but the most of these left hives with a good deal of sealed honey in them. I think only one colony starved. Two were lost because the hive-entrances were not kept clear of dead bees. I had directed that all entrances should be cleared by means of a bent wire, but it was not faithfully attended to. The most of the losses were due to the loss of queens.

I had been taught by many writers that it is best to let the bees attend to the matter of superseding the queen. I am tolerably certain that following this advice has resulted in great loss to me. Had I made use of queens reared in my own yard in strong colonies under the swarming impulse, and then allowed no queen to live more than three years, I think I would be better off. I have some good purchased queens, and have had a good many purchased queens that were good for nothing. I have one queen introduced Aug. 3, 1897, which has done as good work this season as ever before, and she has always done well. This is a York State queen. While one can get a good many good queens by purchase, he has the trouble of experimenting a great while in order to find out which are the good ones; hence, I believe it safest for the ordinary bee-keeper to rear his own queens from the best queens in his own yard in the swarming season.

It is stated in some of the papers that many colonies in Iowa and Illinois have been allowed to perish in the past month from starvation, owing to the lack of bloom, or the weather being so bad that the bees could not work. A few dimes expended for sugar at a critical time may be returned in a good many dollars later on. To let bees starve in June is poor economy. Shall such a man be called an apiarist? He is only a bee-bungler. If the flowers yield nectar from July to November they yield it in vain for him.

EDWIN BEVINS.

Decatur Co., Iowa, July 9.

Pretty Well for Beginners.

In February, 1892, we bought 4 colonies of bees; now we have 10 colonies. I have hived 6 swarms, one June 19, 22, 24, 30, and July 4 and 7.

On Saturday afternoon my wife was at home alone, and being quite anxious to know what the bees were doing, she took the smoker and looked through all the hives, and found all the brood-frames well built down, and enough stores ahead so they will not need to be fed just yet.

The colony we hived June 19 has the super well filled and nearly all capped. It is the only one that has done much in the super.

We thought we were doing pretty well for greenhorns; many others are losing their colonies. R. A. MARSHALL.

Wright Co., Iowa, July 21.

Worst Season—Foul-Brood Cure.

This is the worst season ever known in this section. It rained 28 days in June, and every day in July up to the 8th, which was cold and cloudy. It rained July 9, 10 and 11, and a cold northwest wind. This morning it is cool, but it looks as if it would be a honey-day.

I never saw such a large crop of white clover.

Yesterday was the first day in about 20 that the farmers have been able to plow the ground, it being too wet. That will make the buckwheat at least 50 percent less. Our outlook for this season seems to be very slim, as the white clover is on the decline.

I think I have found a sure cure for foul brood, at least it has made it disappear in one yard. I will be able to report in a short time, as the second lot of brood will be hatching in about 12 days. The 3 colonies I have treated are as healthy as any bees I ever saw since the treatment; but I want to make sure before I report. Facts are what we want in our practice. J. W. TUCKER.

Jefferson Co., Pa., July 12.

BEE-BOOKS

SENT POSTPAID BY

GEORGE W. YORK & CO.,

144 & 146 Erie St., - CHICAGO, ILL.

Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 1902 edition—19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

A B C of Bee-Culture, by A. I. Root.—A cyclopedia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 60 cents.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, bound in cloth. Price, in cloth, 50 cents; in paper, 30 cents.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cents.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Bienen-Kultur, by Thomas G. Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00.

Dr. Howard's Book on Foul-Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. Price, 30 cents.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

CLOSE SATURDAYS AT 1 P.M.—Our customers and friends will kindly remember that beginning with July 1, for three months we close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 19.—Not any comb honey of the new crop yet on the market, but advices of this week would indicate that some sections of the country are now prepared to ship as soon as any demand appears, and beginning with August there has in past seasons been more or less of a market, and it is looked for to begin this year on time. This for several reasons, one being that we are going to have some choice white clover and basswood to offer, which has not been over plentiful during the past three or four seasons. Prices are nominally the same as during the past 90 days. Beeswax sells at 30c.

R. A. BURNETT & CO.

KANSAS CITY, July 5.—Some new comb honey has arrived. We quote: New, 14@15c; old, 12@13c. Extracted, white, 6@6½c; amber, 5@6c. Beeswax, 25@30c. C. C. CLEMONS & CO.

ALBANY, N. Y., July 10.—Honey market not opened yet for this season, but we look for demand to begin in a couple weeks. No old crop in the way. Expect good demand and good prices for new crop, which is very light in this vicinity. H. R. WRIGHT.

NEW YORK, July 7.—There is some fair demand for comb honey at 14c for strictly fancy white; 12@13c for No. 1, and 10@11c for amber. Extracted quiet at unchanging prices. Beeswax dull and declining at 29c.

HILDRETH & SEGELKEN.

CINCINNATI, July 7.—The shipments and offers on new comb honey are so little, besides the predictions for the yield of honey so uncertain, that I can give no figure for prices. Extracted is selling for the same price—Amber, in barrels, 5@5½c; alfalfa, 6@6½c; white clover, 6½c. Beeswax, 28c in cash.

C. H. W. WEBER.

SAN FRANCISCO, July 9.—White comb, 10@12 cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

Stocks are of light volume and market cannot be termed favorable to buyers, but demand is not brisk at prices now generally asked, dealers waiting as a rule for offerings to be presented to them. If pressure to realize were exerted, the material shading of rates to buyers would be necessary to effect noteworthy wholesale transfers.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.

21Atf Mention the American Bee Journal.

WE can place a few cars of COMB AND EXTRACTED HONEY. Will be glad to correspond with parties having some to offer. We also solicit local consignments.

C. C. CLEMONS & CO.,

29A9t 30b Grand Ave., KANSAS CITY, MO.

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SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.

DRAPER PUBLISHING CO., Chicago, Ills.

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BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES.

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.

512 MASS. AVE. INDIANAPOLIS, IND.

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Save Money by Buying
Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF
THE W. T. FALCONER MFG. CO.,
Jamestown, N. Y.
☞ Our goods are guaranteed of superior quality in every way.
Send for our large illustrated catalog, and copy of
THE AMERICAN BEE-KEEPER,
a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)
☞ W. M. GERRISH, E. Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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$300,000,000.00 A YEAR and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.

A New Bee-Keeper's Song—
"Buckwheat Cakes and Honey"
Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"
Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

GEORGE W. YORK & CO.
144 & 146 Erie St., - CHICAGO, ILL.

I ARISE

To say to the readers of the BEE JOURNAL that
DOOLITTLE...
is now up with orders, so he can send Queens from his choice honey-gathering stock, by return mail, at the following prices:

1 Untested Queen ..$1.00
3 Untested Queens.. 2.25
1 Tested Queen 1.25
3 Tested Queens.... 3.00
1 select tested queen 1.50
3 " " Queens 4.00
Extra selected breeding, the very best..5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
27D4t Borodino, Onondaga Co., N. Y.

C. P. DADANT. 1851.
CHAS. DADANT. 1817—1902.
L. C. DADANT. 1879.

To Our Friends and Customers.

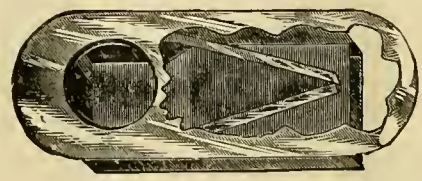
Our senior member, Mr. Chas. Dadant, died after a short illness, July 16th. He was eighty-five years of age.

The status of the firm will remain the same, Louis C. Dadant joining his father C. P. Dadant, under the firm name of

DADANT & SON,
HAMILTON, ILLINOIS.

The Porter Spring Escape

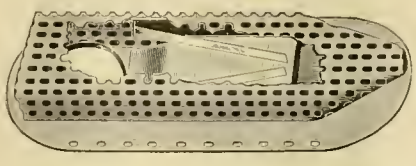
is a great labor-saver. Don't lift the heavy super, shake and brush the bees, cruelly smoke and cause uncapping, stings and robbing.



Use it, and make work a pleasure instead of a dread. Try it, and you won't be without it again. Price, 20 cents.

— THE —
Porter Honey-House Escape

clears the extracting-house of bees. The worst robber cannot return. One over each window and door will save you great



annoyance. If you tier up the supers to rid of bees this is the BEST of Escapes. Try it and you will wonder how you got along without it so long! Price, 20 cents. Address,

THE A. I. ROOT CO., Medina, Ohio.

Also for sale by all our branch houses and agencies, and all dealers in bee-keepers' supplies.

GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

National Bee-Keepers' Convention at Denver, Sept. 3-5, '02

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., AUG. 7, 1902.

FORTY-SECOND YEAR No. 32.

WEEKLY

"BUTTERFLY APIARIES" OF MAYNARD D. NICHOLS, OF SAN DIEGO CO., CALIF.
(See page 500.)

THE AMERICAN BEE JOURNAL

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EDITOR—George W. York.
DEPT. EDITORS.— Dr. C. C. Miller, E. E. Hasty.
SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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Advertising Rates will be given upon application.

The National Bee-Keepers' Association.

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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☞If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

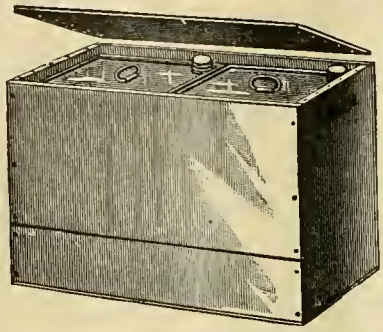
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., AUG. 7, 1902. No. 32.

Editorial.

We Invite You to Subscribe for the American Bee Journal.

This invitation is extended to the thousands who will get this copy as a sample. We only wish those who know and appreciate the value of the American Bee Journal could visit all who will receive this number and who are not now subscribers, and tell them just what they think of it. If that could be done, we believe that our subscription list would be doubled in a month.

But, of course, it won't do for *us* to "blow our own horn" too hard. We will simply ask you to examine this number carefully, and see if you don't think it is *worth all of two cents.* That is just what it costs when you pay us $1.00 for a whole year's subscription, or 52 numbers.

Shall we not have your name and address for our list right away?

Supersedure the Invariable Rule.—It seems hard for some to believe that supersedure is anything but exceptional, and when a queen is superseded it is considered something out of the usual. The beginner should have it impressed upon his mind that in the ordinary course of events *every queen at the termination of her life is superseded.* It is the invariable, the inevitable thing. Lately a correspondent wrote:

"Of the clipped ones I think fully 10 percent have been superseded, while not one of the unclipped, so far as I know, have been disposed of."

If only 10 percent of his clipped queens are annually superseded then he has no reason to find fault with clipping, for that means that the average life of his queens is 10 years, and 10 years is a longer term of life for a queen than has ever before been reported. The reason that he has not observed much superseding among his unclipped queens is that the superseding queen looks so much like the old queen that he does not recognize any superseding. If he will observe carefully, he will probably find that about a third of his queens, whether clipped or unclipped, are superseded annually. In other words, the average life of a queen does not exceed three years.

The Reputation of Extracted Honey is a very varying quantity; that is, it varies greatly in different localities. Some bee-keepers say they can get as much for extracted as for comb, while others can scarcely dispose of extracted at any price. Whatever other reasons there may be for this, one all-sufficient reason is the varying character of the product itself. In some cases extracted honey is so well ripened, so rich, and of such fine body, that some prefer it to comb honey at the same price, especially for some uses.

As there are always new comers on the field, the advice to be scrupulously careful as to the character of extracted honey is always timely. Small wonder that people do not care for honey that is thin, raw, and inclined to sour. Some extract when a part of the honey is little more than nectar, because they will get more pounds than if they wait till the honey is thick. They will have more pounds of honey and water, but not more pounds of honey, and although they may get more pounds, they will not have so much money in the long run.

There is a difference of opinion as to whether honey may be ripened artificially to equal that ripened by the bees. In any case it is well for the beginner to be on the safe side, extracting only that which is sealed. The practice of some is to extract only at the close of the season. It is a safe plan.

Let the beginner remember that a single sale of honey that is not thoroughly ripened, of good flavor, and scrupulously clean, can have its evil effects neutralized only by many subsequent sales of the proper article, if indeed such subsequent sales can be made at all.

Vinegar for Bee-Stings.—A Canadian subscriber writes:

"Rub on a little good vinegar. You will find almost instant relief. Try it."

May be *honey*-vinegar would be best to subdue the pain caused by a bee-sting!

Prevention of Swarming. — Editor Root says "the bee-keeping world would give thousands of dollars to get hold of a plan by which it could put strong colonies with *small* brood-nests at out-yards and leave them there with a reasonable assurance that those colonies would not swarm;" and he thinks that two plans offered by Dr. Miller do not fill the bill. Dr. Miller says:

One is to take away all brood about swarming-time, and the other is to get the bees to rear a young queen about swarming-time. Giving a young queen reared elsewhere will not answer. I've had a swarm issue with a young queen that I had given not a week before, she having just begun to lay; but when a colony has itself reared a young queen, and that queen has begun to lay, I never knew or heard of such a colony swarming till the next year. Gravenhorst gave this as reliable without being able to explain why the young queen must be reared in the hive itself.

Bleaching Honey.—Mr. J. E. Crane, in Gleanings in Bee-Culture, gives his experience in bleaching honey so as to change No. 2 honey into No. 1, and No. 1 into fancy. His success has been such that he has added to his honey-house a permanent structure 10x13 feet, with gable roof, and mostly glass sides. He says:

I ran some 6500 combs the past year through the bleaching process with very satisfactory results. Combs that are only a little off would come out almost as white as snow, while those a little darker would be greatly improved. A few hundred, however, had so much propolis mixed with the cappings that no amount of bleaching would make them white, as I held some of them to it for three months, and finally concluded I might as well try to change the skin of an Ethiopian. It takes more time at best than one would expect. Even those combs that are but slightly stained usually require several days to make them look bright.

In closing, he wisely suggests that it would be much better to produce comb honey without stains.

"Pollen-Clogged Combs in wired frames cleaned, 4s. per doz., standard frames." So runs the beginning of an unusual advertisement in the British Bee Journal. A dollar a dozen seems a pretty good price, but the work is done at least promptly, as the advertiser says he will send back the cleaned combs by return mail. It is much better, however, to try to have pollen used by the bees, in some cases pollen being worth more than an equal weight of honey.

Uniformity of Hives and Fixtures is a thing whose importance is keenly felt by the experienced bee-keeper. Not always—perhaps not often—by the beginner. Indeed, one of the first things with a large number of beginners is to try to make some change in hives or fixtures, later on to find that what was supposed to be an improvement was anything but that. It is safe to give to the average beginner the advice: Don't invent.

After some experience the bee-keeper becomes aware of the nuisance of different measurements when perhaps he finds himself in possession of frames of two kinds so that they can not both be used in the same hive. Then he falls to belaboring the manufacturer. In some cases the manufacturer may be to blame for encouraging changes, but generally it is money in his pocket to have as few changes as possible. If all the bee-keepers in the country would agree upon one kind of hive, one kind of frame, one kind of everything, the manufacturer would never need to have on his hands dead stock out of style. As matters now stand, a set of bee-keepers in one locality insist on a certain kind of goods, a

set in some different locality want something different, the real need for something different perhaps being real, perhaps fancied. It costs more for the manufacturer to make two kinds than to make one kind; and when the need for one of the kinds turns out to have so little foundation, in fact, that the goods are no longer called for, then the manufacturer is left with more or less of the stock on hand; and so it is that from time to time remnants of odd goods are advertised at ruinous prices. In the final analysis the loss must fall more or less upon the bee-keeper, for manufacturers are not in the business entirely for their health, and must make themselves good for losses upon odd goods by prices on regular articles.

The moral for all this is for each bee-keeper to be as conservative as possible, using only such fixtures as are standard, unless there seems an imperative need for something different, in which case he must be willing to pay the price for odd goods.

Competition of Cuban Honey is a thing that is not to be feared by bee-keepers of the United States, in the judgment of W. K. Morrison. He says in Gleanings in Bee-Culture:

Cuba bulks largely in the mind's eye of some Northern bee-men just now. They forget that the land is comparatively small. Texas is ten times as big, and a good deal of Cuba will be rendered unfit for bee-keeping by the advance of the sugar industry. But even if it produces all the honey that its most sanguine admirers think it will, it is certain very little of it will be consumed in the United States. Honey sells for more money in Europe than it does in America; hence, for a long time Cuban honey will gravitate toward Europe, as is the case at present.

I do not think the present tariff of a cent or so a pound on honey sent to the United States avails very much. It only tends to discourage trade. If honey were on the free list the dealers in New York would buy the whole Cuban and West Indian crop and *re-export it to Europe*. The American bee-keeper would lose nothing by the operation; on the contrary, a market would be created which, in times of plenty, would be a valuable asset to the United States.

Weekly Budget.

The Butterfly Apiaries of Maynard D. Nichols are shown on the first page this week. He wrote as follows when sending the picture:

Editor American Bee Journal:—I have been trying for some time to get a suitable picture of my bee-keeping investment, and have not been very successful, but will offer the enclosed. If the whole of the wings could have been taken it would have suited my idea. I have named my apiaries "Butterfly Apiaries," and the arrangement of the pictures forms one.

This is my fourth season with the bees on a large scale—all short-crop years—and during these years, with the great help of the "old reliable" American Bee Journal, one other leading paper, and one of my neighbors, I have acquired some of the rudiments of bee-keeping as managed now-a-days.

In the "Butterfly" the two upper pictures represent my increase of last year, nearly all caught in decoy hives placed in trees, then transferred to standard hives. The picture with the wheelbarrow scene is my queen-rearing stock exhibit near my house, and the other is my main apiary with 100 colonies in it. They are according to Dr. Miller's plan, except there are three twos on each 16-foot rack up from the ground, so that big skunks can not molest them so badly. I have adopted the 9-frame "Jumbo" hive, and am getting very strong proof that a large hive is the best for this canyon. The 9-frame hive is being used more from year to year in this county.

In the body of the "Butterfly" is the picture of the members of my family.

I run every colony for extracting, and have the honey-house arranged so that I can wheel the honey in on a slight incline, uncap it, put through the extractor, then it runs on a cheese-cloth strainer held by a hoop over a tank large enough to hold two cases if necessary. My honey-house is 8x20 feet, with part two story, so I am not obliged to handle the honey very much; then the tank is proof from dirt, bees or ants, and I feel that with queen-excluders I am able to put my crop up for the market as clean and pure as is required.

To those bothered with ants I would suggest that they try putting a tin pan over their hole with a bit of bisulphide of carbon under it, and put dirt around the edge so it will be air-tight. It is the best and cheapest way we have found yet.

I wish to say "Amen" to the Editor's advice some time ago, not to remove the old queen until the new one has been received.

Maynard D. Nichols.

San Diego Co., Calif.

The Colorado Association is to hold a joint session with the National in Denver in September. The program of their 23d annual session, held Sept. 3, is as follows:

WEDNESDAY, SEPT. 3, 1902.

10 o'clock.

Invocation.
Reading Minutes.
President's Address.

(After the President's address ten minutes will be given for members to offer suggestions or give notice of any business or discussion that they wish to bring before the convention. Come prepared.)

11 o'clock.

A four-cornered discussion, by four prominent apiarists, speakers limited to 10 minutes each.

1st subject, "Association Work and Influence—If Good or Bad, and Why."

2d, "Comb Honey Production—Best Hive and System, and Why."

3d, "Extracted Honey Production — Best Hive and System, and Why."

4th, "The Most Pressing Need of Our Pursuit."

General debate on the foregoing subjects, speakers limited to three minutes except by consent of the convention.

Appointment of Temporary Committees.
Dinner.

AFTERNOON SESSION.

1 o'clock.

Question-Box.

1:30 o'clock.

Unfinished Business.
Report of Committees.
New Business.

2:30 o'clock.

Election of Officers.

3 o'clock.

Paper: "The Bee in Literature"—F. L. Thompson.
Miscellaneous Business.

The Program of the National.

FIRST DAY—WEDNESDAY—EVENING SESSION.

7:30 o'clock.

Invocation.
Music.
Addresses of Welcome by Pres. Harris, Mayor Wright, and Gov. Orman.
Responses by Pres. Hutchinson, Sec. Mason, and Director Miller.

8:30 o'clock.

"Bee-Keeping from the Atlantic to the Pacific, as Seen Through the Camera and Stereopticon"—E. R. Root, of Ohio.

SECOND DAY—THURSDAY—MORNING SESSION.

9:30 o'clock.

Music.
President's Address—"The Future of Bee-Keeping"—W. Z. Hutchinson.
Discussion.

10 o'clock.

"Which is the Most Hopeful Field for the National Association?"—Dr. C. C. Miller, of Illinois.
Response by Rev. E. T. Abbott, of Missouri.
Discussion.

11 o'clock.

Question-Box.

SECOND DAY—THURSDAY—AFTERNOON SESSION.

1:30 o'clock.

Music.
"Reporting of the Honey Crop; When and How it Should Be Done"—C. A. Hatch, of Wisconsin.
Response by Frank Rauchfuss, of Colorado.
Discussion.

2:30 o'clock.

"Bee-Keeping Lessons that May be Learned from the Word 'Locality'"—H. C. Morehouse, of Colorado.
Response by E. R. Root, of Ohio.
Discussion.

3:30 o'clock.

Question-Box.

SECOND DAY—THURSDAY—EVENING SESSION.

7:30 o'clock.

Music.
"The Outside and Inside of a Honey-Bee" (Illustrated by the Stereopticon)—Prof. C. P. Gillette, of Colorado.

THIRD DAY—FRIDAY—MORNING SESSION.

9 o'clock.

Music.
"Selling Extracted Honey at Wholesale—How to Get the Best Prices"—J. F. McIntyre, of California.
Response by T. Lytle, of Colorado.
Discussion.

10 o'clock.

"Putting Up Extracted Honey for the Retail Trade"—R. C. Aikin, of Colorado.
Response by George W. York, of Illinois.
Discussion.

11 o'clock.

Question-Box.

THIRD DAY—FRIDAY—AFTERNOON SESSION.

1:30 o'clock.

Music.
"Managing Out-Apiaries for Comb Honey"—W. L. Porter, of Colorado.
Response by M. A. Gill, of Colorado.
Discussion.

2:30 o'clock.

Question-Box.

3:30 o'clock.

Trolley Ride—"Seeing Denver."

THIRD DAY—FRIDAY—EVENING SESSION.

9 o'clock.

Banquet.

A. B. Mason, *Sec.*
Sta. B, Toledo, Ohio.

Remember it is less than a month from this date when the Denver convention will be in full blast. We hope that as many bee-keepers as possible are planning to be there. It promises to be the biggest and best of all the meetings of the National Association. It ought to be. Colorado is a great honey-producing State. It has within its borders some of the greatest bee-keepers in the world. And they, with many from all over the United States, will be at the convention.

It's in Denver. And Sept. 3, 4 and 5 is the time.

Contributed Articles.

Two Queens with a Swarm—Mysteries of Swarming.

BY G. M. DOOLITTLE.

QUESTION.—"Does a colony of bees ever have two queens? I hived a swarm of bees the other day that had two queens, I am pretty sure. I have kept bees only a short time, but I think I know what a queen is. My bee-keeping neighbor tells me that there were two swarms which I hived, and says there is never more than one queen in a colony. Which of us is right? Please tell us through the columns of the American Bee Journal, as we both take that paper."

ANSWER.—Very likely both your neighbor and yourself may be right in this case, but you have things a little mixed. I think such a thing was never known as a prime swarm of bees coming from a colony in a normal condition, having two queens with it. To be sure, we do sometimes have two laying queens in a hive at the same time, although such is a rare exception; but so far as I am aware no colony was ever known to swarm at such a time, and both of these laying queens go with the swarm. With a prime swarm, or what is often erroneously called a first swarm, there always accompanies it a laying queen. All swarms having a young or virgin queen can be properly classed as after-swarms. When a prime swarm issues it generally leaves maturing queen-cells in the old hive, from which, when matured, a young queen leads out all after-swarms.

The only exception to this is that hinted at above, where, from some cause, the old queen dies near the swarming season, when several queen-cells will be formed on the brood left, so that young or virgin queens may lead out what appears to be a prime swarm.

For convenience, all swarms except the one having the old or laying queen are called "after-swarms" by bee-keepers, and from this explanation the readers may know what the term "after-swarms" means. As a rule, about six to eight days after the prime swarm has issued the first young queen emerges from her cell, and if after-swarming is considered by the bees to be the best economy for the colony, the other young queens are kept in their cells by a little knot of bees clustering on them at all times after said queens are heard to be gnawing at their cell-covers, so the lid of the cell can not be removed to let the queen out, her majesty being fed all the time through an aperture made by the gnawing of the imprisoned inmate in the royal cell. If further swarming is not considered "economy" by the bees, then all the other queen-cells are torn down after the young queens have been destroyed, so that the first which emerged is the only queen in the hive.

If the cells are protected as above, the first emerged queen seems to get into a rage, and utters shrill notes at intervals, sounding something like tee—tee—tee-tee, te, t, t, t, would sound uttered in this way, and called the "piping of the queen," which is kept up for about two days, when the second swarm, or the first of the after-swarms issues. This piping of the queen is always heard if listened for before all after-swarms, or any case of a plurality of queens in a colony intending to send out a swarm. The queens kept back in their cells by the bees are growing in age and strength, the same as is the one having her liberty, they telling this by their trying to pipe the same as the one does that is out of her cell, which noise is termed "quahking;" and so it happens that, during the hurry and bustle of second swarming, one or two of these queens hastily finishes biting the cover off the cell and gets out with the swarm, in which case two or more queens are found with the swarm, as was the case with our querist, although it is a rare thing to see more than two or three queens with a second swarm, unless said swarm has been long delayed on account of bad weather.

If a third swarm is to issue, the bees now cluster about the remaining royal cells having queens in them, the same as before, keeping all queens prisoners except one, which liberated qeeen scolds and pipes away, as did the one before, the others in the cells showing their anger back again by a chorous of quahking immediately after the first ceases piping, when, after the lapse of two days, or such a matter, the third swarm issues.

As there are less bees in number at this issue than there were when the second swarm issued, and more mature queens held as prisoners, the queen-cells are quite generally vacated by the guard-bees; and queens, bees, and all rush out, and in such cases I have often counted as many as from 8 to 15 queens with one such swarm, though from one to five is the usual number.

Occasionally a colony will send out a fourth, and sometimes a fifth swarm, though the latter is of very rare occurrence; and sometimes all of the young queens will leave their cells and go out with the last swarm, in which case the parent colony is hopelessly queenless, and dies from their inability to procure a queen, when, as soon as the bees are gone, the larvæ of the wax-moth take possession of and destroy the combs, and the owner declares that the worms was what destroyed his bees.

In the above I have tried to give a short insight into the mysteries of the swarming of bees, many points of which do not seem to be fully understood, even by those who have kept bees for several years. Onondaga Co., N. Y.

Importance of Good Stores for Bees in Winter.

BY C. P. DADANT.

I believe it is necessary that we should report failures as well as successes, in order to enable the producers to judge of the possibilities of the business and take advantage of the experience of others, whether for good or for bad.

Last year was probably the driest season that we have ever seen, and the apiary conditions were anything but favorable. But in spite of the drouth the bees stored some honey. Those that were located on the lowlands near the Mississippi River gathered quite a crop from the fall blossoms that grow there in abundance. Those on the hills had, in this locality, a heavy flow of honey-dew, the honey-dew of plant-lice, a very unusual occurrence in the month of September, for I do not remember having ever seen honey-dew later than the month of July.

When our apiarist reported to me that the hives were getting fairly good stores from honey-dew, I had some misgivings as to the probable success of wintering on such food, but as he reported also that they already had some honey from other sources, though in small amount—and as I had noticed the bees at work in the fall bloom, which was rather scanty, it is true—I concluded we would best risk wintering on that food rather than going to the very considerable trouble of extracting all the honey and feeding. But I felt uneasy, and wrote to a friend who asked me about the condition of the bees, that I was afraid there might be considerable loss, owing to the bad supply of winter food. He reminded me of this after he was informed of the result.

Well, the beginning of winter was very favorable. The bees had a flight every few days, and everything looked prosperous. But after Jan. 15, we had about five weeks of confining weather, during which the bees could not fly, and when a warm day came it was plain that the bad food was doing the havoc anticipated, and worse, too. Nearly every colony suffered from diarrhea, and a few colonies were found dead. Then dwindling began, and slowly and steadily we lost one colony after another till one-third of the apiary had gone, here at the home place.

Two other apiaries were equally decimated, both having been within reach of the unhealthy supply, while the bees that had harvested a crop of fall honey wintered as well as any. Never had we seen such poor food in the hives, and never had we lost so many bees during the winter. It was practically a disaster, and until May the bees kept falling away. But at the opening of the fruit-bloom they began picking up, and now the hives are full (June 27), artificial divisions have refilled the greater number of empty hives, and our apiary is itself again, though still we have a few hives full of combs waiting for a little better weather. For the season is not at all favorable, the white clover bloom is missing almost entirely, though there is plenty of it coming up, but this will not bloom so as to give us any crop this year. The wet weather is filling the corn-fields with knot-weeds and Spanish-needles, and we look for a fair fall crop.

This loss, it seems to me, carries a good lesson. We knew, by former experience, that winter food was of great importance, but this evidences the fact that it is probably the most important item in successful wintering. Not only can not the bees be wintered safely out-of-doors with such food as honey-dew, when the confinement is to extend beyond a few days, but even cellar confinement is dangerous.

We had put 20 of our weakest colonies, in an out-apiary, in the cellar, and out of these only four came out alive. With good, healthy food it is not probable that we should

have lost more than one or two of these. So we must emphasize the need of good stores for winter.

It is not probable that an accident of this kind will occur very often, because honey-dew may not appear for years at the end of the season, but it is very clear that it would be better to extract all such honey, when it is present in the hives, rather than run the risk of its pernicious influence on the health of the bees.

But the beginner should remember, when he meets such a disaster, that it is a mistake to get discouraged; first, because such things do not happen very often; and, secondly, because an apiary can very soon be recuperated when you have the hives, the combs, and a few good colonies left to breed from. With a number of hives full of combs and partly full of honey, the most insignificant swarms can be turned into strong colonies in a few weeks of warm weather.

Hancock Co., Ill.

What Determines Sex?—A Big Question.

BY PROF. A. J. COOK.

When we stop to think, the fact of the approximate equality of the sexes numerically, not only among our own species but among most organisms, can but awaken surprise. It would seem that the determining factor must be some fortuitous event that is just as liable to turn one way as the other. It also speaks of a Planner who controls in the physical world, and has planned that the best—equality of the sexes in number—shall always hold.

Cattle-breeders have often argued that each alternate egg that passes from the ovaries will produce males, and the others will develop into females. While there is enough evidence to give this position some standing, and to effect results in auction sales of fine cattle, yet the numerous exceptions seem to negate its reliability, and I think now it has no hold at all among scientists.

The theory most advocated to-day is that the quantity of nourishment which the embryo at the time of sex-determination governs in fixing the trend. It is a well-known fact that the sexes are indistinguishable for some time. The sex-organs are present long before they are differentiated so that the sex can be determined even by closest examination. Even the keenest, best microscope can not tell whether male or female is to result. I doubt if there is any difference at first. Just when the difference commences, or what determines it, are interesting questions. The view now being explained is that the vigor of female just at the crucial time effects the trend of development. If the female is strong, and all her organs in healthy condition so that the egg or embryo will receive a maxium of nourishment, then a female results. If the reverse is true, then a male is produced. This theory has much to sustain it, else it would not receive the support and advocacy of our most advanced scientists.

THE ARGUMENT.

The animals and plants that first peopled the world, when Time was young, as also similar simple life today, are sexless, and only produced by division. These organisms are single-celled. They produce by simple dividing. After a time, that is, after they have divided again and again, they conjugate, that is, two cells unite in close apposition. After remaining together for a season they separate, when division goes on as before, each organism dividing and becoming two. That this conjugation in some way gives new vigor and strength cannot be doubted. This is surely a precursor in purpose and reality of real sexes among plants and animals.

BEES IN THE ARGUMENT.

The Dzierzon theory of agamic reproduction, or parthenogensis, in the production of drone-bees, it seems to me offers a substantial argument in favor of the new theory, I truly believe, notwithstanding the note of criticism that ever and anon is being sounded forth by doubters, that no truth in science is better founded than this, that the drone-bee is the result of reproduction from unimpregnated eggs. A few in early summer, and later, at the volition of the queen, have the sperm-cells withheld. These invariably produce drones. Old queens whose sperm-sacs, or spermathecas, have become emptied of the sperm-cells received at the time of mating, produce only drones. We call such, as also unmated queens, that lay eggs that develop, "drone-layers;" such can lay unimpregnated eggs, and so such can produce only drones, and are worthless.

We have seen how conjugation vivifies the lower organism. The giving of its substance, or exchange of substance, adds vigor and enhances vitality. Can we doubt that in the incorporation of the sperm within the egg of both plants and animals also gives new vigor, and that this is a principal purpose of sexuality in all organisms? It follows that the impregnated egg would have an added vigor, and if it is true that added vigor determines female structure and function, then, in case all eggs develop, those that have received the sperm will produce females, while the others will result in males. Usually, unimpregnated eggs have not vigor sufficient to develop at all. Prof. Loeb has shown that in some cases the addition of certain chemicals can induce this development of eggs without sperm, that else would have been infertile. Thus I believe the production of drone-bees from unimpregnated eggs, and females from impregnated ones, among ants, bees and wasps, is a real argument in favor of our theory.

There are other arguments. In the plant kingdom we find some cases where the reproductive cells are better fed and developed, and these always produce eggs, and are females. Plants and animals are alike in their basic structure, and such a phenomenon in one can be safely used as an argument in regard to the other.

If this theory is true, then if a female is kept in maximun vigor during gestation, the progeny will be female; if at a certain indeterminate time there is lack of vigor then a male will result. It is possible that an indigestible meal, a hard task, or a bitter disappointment, may have been parents of many a male, while the opposite gives us our females.

Los Angeles Co., Calif.

Methods of Rearing Good Queen-Bees.

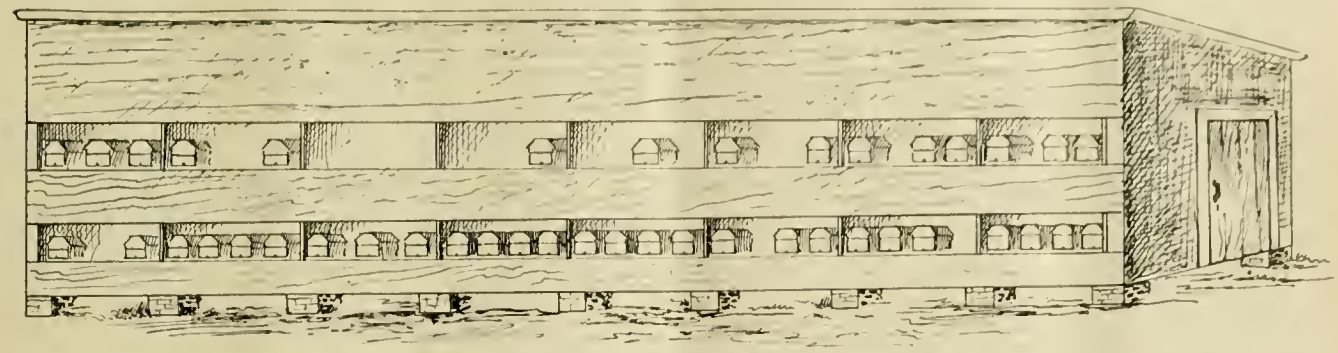
BY F. GREINER.

The cool and rainy weather of late has been unfavorable for honey-gathering here, and extremely so for queen-rearing. I am very anxious to put to test some of the newer and cheaper methods of keeping young queens in very small nuclei for the purpose of having them mated; but the weather we have had all during June has not permitted of any such work. At least it did not appear to me that mere handfuls of bees could be depended upon for it. If queen-rearing is at all practicable here during such times, good, strong, three-frame nuclei are to be preferred. Warmth—a certain degree of it—is essential for the development of brood, and I would as soon think of running an incubator 10 degrees below the proper temperature, as to mature bee-nymphs at a low temperature.

Of course, we do not know just in what manner, or to what extent, bee-brood is injured by letting it become cold or chilled. It is difficult to ascertain this. Capped brood may be exposed to a low temperature for a time and not be harmed, so far as I can see; but to be on the safe side, developing queens should be kept at the proper temperature all the time. This, however, is no higher in a doubled-up colony than in a single one when in full strength, and I can, therefore, see no advantage in using two colonies united for the purpose of rearing queens in that respect. If there was, one might reason thus:

If a single colony rears queens living three years, and a doubled-up colony queens living six years—about what Dr. Gallup claims—then ten colonies united into one giant colony must rear queens living 30 years. By continuing this doubling-up plan we would finally produce queens reaching the age of Methuselah, etc., *ad infinitum*. I can not think that Nature should have made a mistake in limiting the powers of a queen, the life of a queen, or that of the workers.

I suppose one might assert that two colonies united would be able to prepare a greater quantity of royal food, and in order to dispose of it would provide it for the baby queens more lavishly It could be supposed that there was a limit to the production of this food. One colony, for instance, might be able to feed a dozen queen-larvæ properly, but no more. A doubled-up colony would have to feed each of the 12 larvæ a double portion; the same would result if but six cells were allowed to be built in the single colony. The superiority of queens would thus be governed to a great extent by the number of cells built in each colony. If but few cells were built they would be very large in order to hold this greater quantity of food. But this is not so. Only recently one of my best colonies built but a single queen-cell. It is exceptionally small. Another colony by its side built 12 or 15, all of which were large and long, indicating a large amount of food under the developing insect.



WINTER AND SUMMER BEE-HOUSE OF F. R. WEBSTER, OF CHESHIRE CO., N. H.

If the theory was sound, a colony robbed of all its brood would be in the best condition to feed queen-larvæ. But it seems that a colony in normal condition, with lots of brood of all ages, does the best work. Even after a colony has been robbed of the greater part of the bees, in the shape of a young swarm, it is still in a condition to keep warm and properly feed a large number of growing mother-bees.

I agree with Dr. Gallup in his closing remark on page 408: To rear long-lived, healthy queens we must rear them in a natural manner. It shall be my aim in the future, more than it has been during the past three or four years, to rear my queens from normally-stocked-up cells. However, we should not ignore the fact that Doolittle and others are just as successful since practicing queen-rearing according to the new methods, as they were before when queens were reared naturally.

The great majority of honey-producers have always reared their queens according to nature, and do so now, but it has not been discovered that the powers of the queens have materially changed or increased. I don't anticipate that we will accomplish wonders. It must have been an exceptional case when it was necessary to provide a hive of the capacity of three full Langstroth brood-chambers to hold the bees of one young swarm, as Dr. Gallup says in a previous article. If it was possible, and we should succeed in changing the nature of the honey-bee to such an extent our bee-supply dealers would have to get up different patterns for the hives to be used in the future.

Mr. Frank Benton suggested, some years ago, that the queen-nymph might absorb nourishment through her abdomen, or the part which rests upon the food. Dr. Gallup claims this process takes place through the umbilical cord. It can not be said in the true sense that the nymph rests upon the food, for the food is above the insect, from which it would fall if it were not held in its position in some manner. The umbilical cord may serve this purpose. It looks highly improbable to me that the queen-bee in its nymph stage should take nourishment in any fashion. Other insects pass this stage of their lives without taking food or having access to it; why should the queen-bee be an exception? On the other hand, it would seem like wasting material if this—what seems like an accumulation—which is found at the base of each queen-cell after the insect has emerged—should not have served a purpose.

There are a great many things connected with our pursuit still hidden in mystery. Many will remain so for all time. However, this should not hinder us, but rather urge us on—to work trying to solve some of them. All who engage in such work are deserving credit, although they may fail to find the real truth.

Ontario Co., N. Y., June 27.

A Bee-House for Winter and Summer.

BY F. R. WEBSTER.

I speak of wintering bees not only because I feel that I have been successful in my plan, but because I am convinced that others have failed to meet with success by other methods, or I might say because they had no method at all. Neither do they try to form one. If you have 20 head of cattle to winter you must prepare to have a suitable place to keep them; you must also have from 20 to 30 tons of hay, grain, etc. You are not expected to be to this great outlay to winter your bees, for if in a suitable place they will supply the necessary food for wintering themselves. But according to my way of thinking this is not all that is required of you.

You must provide a suitable winter shelter to protect them from the elements of our long, cold and stormy winters. For this purpose I build a bee-house, and it is for bees only. The accompanying rough drawing will give a fair idea of its construction. It is 8 feet between each space, double-deck, and intended to hold 4 hives between each space. It is 6 feet wide, with 2 platforms 30 inches wide for holding hives, with a slant to the front of 1½ inches; leaving the balance of space behind the hives for a walk.

My bees are kept in this house in winter as well as summer. The hives are always dry, which, in my opinion, is much better for wintering than one that is cold and frosty.

As soon as stormy weather begins I close the two open spaces with heavy canvas, which keeps it so dark that the bees never leave the hives. The warm sun warms the air through this canvas, and the air is always pure.

This house faces the south-east, while in the rear a high, uneven bank furnishes the best shelter from the northwest. My building standing to the northeast is another shelter from that direction.

Two or three times during the winter I raise the canvas curtain and allow the bees a good flight; at the same time I tip back the hives and brush off all dead bees from the bottom-boards.

I do not advise others to do as I do, but I will say that while others in this locality have lost nearly all their bees I have met with small reverses, and shall continue as I began until I have proven to myself that I am following the wrong trail.

The wise man profits by experience, while the otherwise spend their time in experimenting. What the foolish man does in the end the wise man should do in the beginning.

I am a subscriber to the American Bee Journal, and find in it many items of merit which are of great interest and profit to every bee-keeper of our great country.

Cheshire Co., N. H.

Bees Dying from Spraying While in Bloom.

BY C. H. LAKE.

EDITOR AMERICAN BEE JOURNAL:—

The first paragraph that caught my eye in the July 3rd edition of the American Bee Journal was the Richland Co., Wisconsin, case of "Poisoning from Spraying," and I take the liberty of being one of the many who will probably comply with your invitation to answer the questions there put forth.

1. The effect of spraying with any of the arsenical solutions, the trees or any kind of plants the bees work on, will be death to the bee that works on the flowers in quest of honey.

2. Would it affect the working bees? Yes, it would kill them.

3. Would it affect the brood, etc.? It would kill every larva fed with the honey gathered from sprayed fruit-trees.

4. Would the brood hatch? No, it would die within 24 hours after the nurse-bees fed it to any hatching brood, besides killing the nurse-bees.

5. Would it produce healthy bees if it should hatch? This I cannot answer, as in the case I am about to relate but few bees hatched at all, after the trees began to blossom.

I base these replies upon my own experience of 4 years ago. I had a small apiary of 39 colonies of as fine Italians, and in as fine condition, as I ever saw, when the spring opened. I had wintered them under a covered shed, with plenty of protection all about them, even leaves packed snug beneath the stands and between the hives, with a we

filled bag over the brood-combs. They were strong enough to swarm on the opening of the first blossoms.

The plums were the first to blossom, and a goodly number of trees were in close proximity to my bees. I then discovered in front of the hives quite a number of dead bees with pollen on their legs, and on opening several hives I found the bottoms covered with dead and dying. I remember picking up quite a number and sending them to various authorities asking their opinion of what was the trouble. A. I. Root, I remember, answered that he was unable to surmise the cause, and, you, Mr. Editor, may have received a box of the dead. At the time I had not thought of any one spraying.

Ten days later I visited the apiary again, and I could have filled a barrel with dead bees in front of the hives; thousands were dead with pellets of pollen on their legs, showing how quickly death came. I began then to look about for the cause, and in conversation with the gardener of an adjoining farm he made the statement, that "he must go and see about the men spraying."

"Spraying what?" was my inquiry. "Why, the orchards," he replied. "We have been at it for two weeks, to kill the codling-moth, etc."

"The cat was out of the bag," and he was the ruin of my bees.

It is useless for me to add anything further, but the result was, that every colony but two dwindled to a handful, and the moth soon made their appearance and I was compelled to break up the apiary entirely, by uniting the best I could.

If your correspondent will visit some of his near-by friends and make inquiries respecting the spraying while the trees are in blossom, he will find the cause, and also what poison they used.

One main point before I close: The cause of his "hatching young being healthy," was from the fact that plenty of the old stores were in his hives, while in my case they had but little, when the trees began to flower, and the young were fed the poisoned honey as fast as it was gathered.

I sincerely hope others, if there were such, will give their experience along this line, and that fruit-growers will get their eyes open one of these days and learn that they destroy thousands upon thousands of their best friends, not only the honey-bees, but all classes of insects that our Great Master has given to fertilize the blossoms to give them a bountiful crop.

If the same labor were expended in going over the orchards and gathering up and destroying all the "windfalls" and defective fruit, which is the breeding-pen of the codling-moth, that is put into the task of spraying, I will guarantee the codling-moth will be a stranger in such orchards.

I was born and reared among fruit, and it was part of my daily task to destroy all fruit that dropped. The result was our fruit always maintained a high reputation, and no spraying was thought of. Baltimore Co., Md., July 8.

Do Robber-Bees Sting?—Other Questions.

BY ALLEN LATHAM.

This question is raised on page 115, and having had some experience in the matter I will venture to offer an opinion. I say that they do. I would suggest here that there should be a distinction made between thieves and robbers. Some bees get a thieving habit and will sneak about the apiary seeking an entrance here or there, always watchful and alert to keep out of a struggle with the entrance guards. These bees are sneak-thieves. There are other bees which get stirred up over some exposed honey, or the poorly guarded stores of a weak colony, so that they sally forth in conquest. Will they sting? Well, I should say so! They will sting both bee-keeper and the home bees.

Last fall I had a colony which, swarming late and possessing an exceedingly prolific queen, bred heavily, and had to hustle to get a living. A drop of honey could not be exposed a minute before that colony would be in an uproar. Sallying forth by thousands they would try to force every entrance in the yard, and would *kill* and be killed by the hundred. These bees were a bright yellow, and the dead bees left by the entrances were by no means all yellow ones. Many a time I watched these bees, and it was no infrequent sight to see one of them turn on its captor. Being an exceedingly active bee it often got its sting into action first. In more than one instance I saw the two bees sting simultaneously and both die. These are facts. This is not the only instance I have known, though I think that it is the exception rather than the rule for robber-bees to sting the home bees.

AMOUNT OF HONEY CONSUMED BY A COLONY IN A YEAR.

On page 263 is an excellent article by Adrian Getaz, but in it is the statement that a colony consumes 200 pounds of honey in a year. By my figures, allowing most generously, a strong colony will use only 165 pounds in a year. I doubt if average colonies consume more than 120 pounds in a year. If the matter seems of sufficient importance I will later submit my figuring, but not now, for it would take up a great deal of space.

MOVING BEES A SHORT DISTANCE.

I had occasion, last fall, to move several colonies a short distance. For distances less than 20 or 30 feet this plan worked well: The colony was moved about 10 inches; two days later two feet; two or three days later a yard; and so on till the full distance was reached. The bees seemed to get the habit soon of easily finding their hive, though it was changed as much as four feet.

For distances more than 30 feet I found this to work well: I have portico hives, and I fitted over the portico a board with four ⅜-inch holes in it. Few bees returned.

BREEDING FOR LONG TONGUES.

I would not discourage this worthy effort, but would cry out against too great expectations. Though a bee with a long tongue can thereby reach into a few deep blossoms, a tongue too long will hinder the work on the shallow blossoms. At present the legs, tongue and other parts of the bee are in perfect harmony. Give the bee too long a tongue and the harmony is destroyed. Too long a tongue will probably be a disadvantage in the domestic duties of the hive.

We can at best, then, seek to lengthen the tongue only slightly. Shall we gain more than the red clover by a lengthening? Let him who knows answer. If not, then it would be far better to seek red clover with short corolla. I am strongly of the opinion that we already possess bees with as long a tongue as their bodies will profitably utilize. Let us breed for larger bees with the longer tongues.

LONG-LIVED BEES.

Too much can not be said concerning longevity of bees. I shall continue to harp on this strain. A few years ago I had a colony with a 4-year-old queen. The queen could keep only four or five frames filled with brood, while other colonies kept eight or nine. The colony stored twice the amount (75 pounds) that I got from any other colony. The season was a poor one.

THE FATHERLESS DRONE.

Though I do not question that the drone is fatherless in the ordinary sense of the term, I do think that he has a father in the sense of looking like the drone which was the father of his sisters. Last summer I reared several queens from a mother whose workers are yellow and whose sons are well marked with yellow. Out of four of the young queens two mated with yellow stock, the other two with impure stock. The first two throw as yellow sons as their mother, the second two throw as many black drones as they do yellow ones. So that it is a mere accident, if you wish. It may be. I do not know. I will, however, show the progeny of these queens to any visitor. I have frequently had queens throw blacker drones than their mother furnished, and explained it by saying that the grandfather was dark. But when some queens throw yellow grandsons to a drone, and others black ones to the same drone, then we have a puzzle.

THE FATHER OF GREATER IMPORTANCE THAN THE MOTHER.

How often are we disappointed while breeding from a fine queen that we get queens uniformly inferior to the mother. Until we control mating this will remain true. I am more and more convinced that the drone makes up for his sonlessness by transmitting his character to his daughters, and that the queen throws her peculiarities into her sons. Allow me to offer facts. A few years ago I bred from a fine queen at a season when the drones flying were mostly from colonies of a neighbor whose bees were very vicious. The progeny of the young queens proved vicious. Again, last fall I bred queens from a dark Italian queen whose workers are rather cross. I had drones flying freely at the time from a colony of most gentle yellow bees. The

two queens which I have saved from that lot have beautiful yellow workers which are as gentle as one could desire. (By the way, the drones are much more yellow than those of the old mother-queen.) I believe, therefore, that the worker takes more strongly after the father, and that we shall have to control mating if we ever get the results that are possible.

WORKING FOR NO INCREASE.

I should like to get the composite opinion of bee-keepers on this plan: Clip the queen; let the colony swarm if it wills, allowing the queen to get lost, or take care of her in any way one may wish; let the bees return to the hive; six days later cut out all but one good cell, and then push the colony for section-work. Worcester Co., Mass.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

The Use of the Queen's Sting.

On page 409, "Ohio" asked whether the chief use of the queen's sting is in ovipositing, and my reply leaned strongly to the negative. My attention has been called to a different view expressed by no less an authority than T. W. Cowan. In his excellent work, "The Honey-Bee," he says in speaking of the queen's sting, page 81, "Dewitz, Vogel, and others, have pointed out that it is not only analogous to an ovipositor, but is actually used for this purpose by the queen-bee." (See also Grimshaw, B. B. J., 1889, p. 514.) I take pleasure in recording my change of belief. C. C. M.

A Case of Laying Worker.

What is the cause 5 or 6 eggs in a cell? My husband and I have looked over this colony for 3 hours and cannot find a queen, and we are quite positive there is no queen, but the cells are laid with eggs, and there are lots of bees, in some of the cells there are two young bees formed. Is there any danger of foul brood in a case of that kind. Should we try to throw the brood out with the extractor? Where there is more than one bee in a cell would they decay? ONTARIO.

ANSWER.—You have on hand a case of laying workers. The best thing to do is to break up the colony and give combs and bees to other colonies. The brood that is present will produce only drones. You will find it cheaper to break up the colony and make a new one than to straighten up this one.

Requeening—Extracting—Yellow Sweet Clover.

1. I subscribed for the American Bee Journal for 3 months, and my time expired, I think, but I would like to have the paper continued. Would I be entitled to an Italian queen as a new subscriber, if I sent $1.00?

2. I have 3 colonies in which I cannot find the queen, and that will not accept a queen-cell, will cut it out, but they won't draw a cell. They go on storing the honey same as the others. One of them draws out some cells about ½-inch long, caps them over, and in a few days cuts them out. I have tried everything I know, and would like some advice as I do not like to exterminate them.

3. I think I shall have more than a ton of honey in my apiary that I could extract. Shall I do it, and then let the bees build up for winter? I have sown buckwheat, and we have a good deal of goldenrod in the fall, so I am undecided what to do, whether to let them work in the supers or to extract.

4. Will sweet clover seed grow from the first bloom, or does it have to be cut and gathered the second crop like other clover?

5. Is the yellow sweet clover earlier than the white? and does it produce white honey? I would like something that would give work for the bees about the first of June, for that is the most critical time for us here, for we want our little workers strong when the basswood comes.

NEBRASKA.

ANSWERS.—1. By the terms of the advertisement it will be seen that to secure a premium queen one already a subscriber must send in a subscription of another who has not been a subscriber; it is not your own subscription that counts, but that of a new subscriber whom you have secured. You are not barred out, however, even if you do not secure a new subscriber, for, according to one clause, you will see that not being in arrears, if you send in $1.50 you will get the premium queen and the American Bee Journal for one year.

2. Try giving them from another colony a frame of brood with adhering bees, of course being careful to see that you do not take the queen along.

3. Better be on the safe side. You can extract later, if necessary, but make a sure thing of winter stores.

4. Seed from the first crop of red clover is not obtained because at that time bumble-bees are too scarce to fertilize it. Sweet clover being fertilized by hive-bees, the first crop is all right.

5. It is earlier, and it makes light honey.

Removing Granulated Honey from Combs.

I have about 40 Hoffman frames with as beautiful comb as one could wish to see, but during winter the honey granulated. I wish to know if there is any safe way of taking the granulated honey out, without melting the combs.

NEW BRUNSWICK.

ANSWER.—M. M. Baldridge gives this plan: Sprinkle the frames with water and give to the bees. As often as the bees lick them dry, sprinkle again.

Dark-Colored Wax and Foundation.

Do bees that feed on buckweat honey produce dark-colored wax? If not, what is the cause of dark-brown-colored comb foundation? ONTARIO.

ANSWER.—Foundation is not dark-colored because the wax was made from buckwheat honey, but because in some way the wax became dark after the bees were through with their part, such as having it melted in an iron kettle.

A Beginner's Troubles and Questions.

I cannot tell queen-cells from any other. We have had bees for 3 summers, and I never saw a queen that I know of. I am very much afraid of them. My husband is in California this summer, and I am the only one to care for the bees. I thought I had done something to boast of when I got courage enough to put on supers. We had only 3 colonies when they were put into the cellar. A good many died, and we did not know the cause, whether for lack of food or not, we did not dare to look.

1. Two of the colonies sent forth 2 swarms apiece in June, and the other one, a small colony, has not swarmed; they seem to be working the best. The last two swarms gave me trouble, and that is the reason I sought information. When No. 1 came out it settled in two different trees; I shook the smallest number until I got it to go over on the other tree with the rest. I then hived them. In about a half hour they were out again and settled on a grapevine all together, and I got them in once more.

2. This time they stayed in 9 days. I had set it beside the old hive; the fourth day when at daybreak I went to put on a super I saw a great tumult going on in it, and in the old one that it came out of, and it was kept up until the ninth day, when I noticed there were no bees going in and out, as there had been, but they had done quite a little work in making comb and laying eggs. The foundation comb had loosened, or they had gnawed it until the most of it lay on the floor of the hive, and the work they had done was without foundation comb.

3. There has been more noise in the 3 old hives, until 3 days ago. I supposed by the racket that was kept up in the old hives they must have gone back to the old hive they came out of, and that the queen would not receive them all, but made them divide up and some go in the other old hives; the hives were side by side, still the first 2 new

swarms were not troubled. Did they fly away, or go back into the hive in which they were reared?

The last swarm, No. 2, came out of another hive two days afterward, on a very sultry day, there was scarcely any air. I could not get them to stay in after chasing them in from three different trees; they finally flew away so far I could not carry the hive, so I lost them.

I find by the Bee Journal that it was as I thought—because it was too warm, and they preferred hanging on the trees to being in a hive.

Our bees are small brown ones, and I have been told by persons who know, that they are Italians; they are great workers. MINNESOTA.

ANSWERS.—1. The dead bees you found in the cellar may have been nothing more than the usual nnmber of bees that died from old age.

2. It is an unusual thing for a swarm to desert a hive after nine days; yet too great heat may have caused the bees to leave then—a view that has some confirmation in the fact that the foundation broke down.

3. The queen would not object to the return of the bees, but it is by no means certain that there was such return if you did not actually see it. The issuing of a swarm from the same hive a second time may have been nothing more than the issuing of an after-swarm that is likely to be a part of the regular program with a strong colony.

You will no doubt find plenty of information in future numbers of this journal equally as valuable as those already found, and the study of a text-book would be a matter of the greatest profit.

Bee-Keeping in Oscoda Co., Mich.

1. How about the climate and honey-plants of Oscoda Co., Mich.?

2. Would bees do well in a basswood location in Oscoda County?

3. Could I winter bees by packing in a shed in that climate without much loss from freezing?

4. Is the season too short for the bee-business in that county? OHIO.

ANSWERS.—1. As the counties of the different States run up into the thousands it would be difficult to have a knowledge of all, and if any possessed such knowledge it would not be of sufficient general interest to occupy the large amount of necessary space with it. Some acquaintance living in that county can probably set you on the way to find out what you want.

2. You may count safely on basswood anywhere, although even so good a honey-plant as basswood has its years of failure.

3. Most likely, as it is less than 45 degrees north, and between two of the great lakes.

4. No.

Changing Queens for Bee-Paralysis.

I wrote you some time ago in regard to a colony of bees that was suffering from disease which you pronounced "bee-paralysis." I acted on your advice and let them alone for about 3 weeks, during which time the mortality increased very much, to the extent that perhaps 150 to 250 bees fluttered around the alighting-board each day and died before night. The queen all this time was doing her duty nobly, keeping the combs pretty well filled with eggs; she was a fine looking queen but I did not know her age as she was in a colony I bought in the spring of 1901. I thought possibly she might be very old, and I had about made up my mind I might as well break up the colony, as the death-rate about equaled the number of young bees produced, and the colony was not getting any stronger. About this time there was an article in the American Bee Journal by Dr. Gallup, in which he said, "If you have bee-paralysis take a sharp ax and cut off the head of the queen and give the colony another queen, and you will have no bee-paralysis, provided the queen you give is healthy." It was June 27 when I read that article, and I destroyed the queen and gave a queen-cell about ready to hatch; in a little more than a week she was depositing eggs. This is perhaps two weeks ago, and the disease seems to have disappeared.

Now, Doctor, was this a happen so, or is there some connection between the facts and the results?

The books seem to give no cure for this disease, indicating that not much is known about the disease, and I quote these facts to you in the hope that yourself or some one else, by putting facts together from different sources, may eventually work out the cause and a cure. OHIO.

ANSWER.—It is not an easy thing to prove that when a cure occurs after the administration of a certain remedy the cure was the result of the remedy, and perhaps equally difficult to prove that there was no relation between the two. Changing the queen of a colony is one of the many remedies put forth as a certain cure, only to prove a failure when tried by another person. Root's "A B C of Bee Culture" has this to say about it:

"In many cases destroying the queen of the infected colony, and introducing another from a healthy stock, effects a cure. This would seem to indicate that the disease is constitutional, coming from the queen; but in the South, where the disease is much more prevalent and destructive, destroying the queen seems to have but little effect."

That statement, together with the fact that in the North it is a common thing for the disease to disappear when no remedy is attempted, makes it at least not certain that the change of queen had any thing to do with the cure.

Changing Queens Now—Keeping Queens.

1. I would like to know whether it will do to change queens at this time of year or not? I have a colony of bees that were transferred about 2 weeks ago, and they have 13 queen-cells started, and I cannot find the queen; I suppose she was lost in transferring, by having so many cells started. I have a new colony of hybrid bees, which were found on a bush June 27. I would like to have the good queen in this hive, but they have a queen-cell started, and a very nice-looking queen. Can I take the queen from this colony and give it to the queenless one, and give the new queen to a good colony?

2. How long can I keep a queen before I introduce her? ILLINOIS.

ANSWERS.—1. Yes, this is a good time of the year to change queens, or at any time when honey is freely coming in, and you can make the desired change if you observe the precautions advised in your text-book.

2. With a sufficient escort of workers and plenty to eat and drink, there is no trouble in keeping a queen a number of days while the weather is warm, possibly a month.

Transferring and Perhaps Robbing.

We lost the colony of bees transferred from the old box-hive to a new Danzenbaker hive. The bees were all, apparently, driven into the new hive, and the old hive, which contained but little honey or brood, and a lot of old dark-colored comb broken up and the pieces left lying near the stand. They seemed gradually to leave the new hive and to merge with another colony in the hive alongside, until the new hive is now empty, except a few dead bees. These bees in the two hives had not worked much all summer, and we are in doubt whether to risk transferring the other colony to the new Danzenbaker or not. ILLINOIS.

ANSWER.—Without full particulars it is not easy to make a diagnosis. You do not say whether you left the new hive on the old stand, but it is supposed that you did. The fact that the old hive which contained some honey was broken up and the pieces left lying near the stand awakens suspicions that you left lying on the ground near the transferred colony the remains of their old residence, there being in the scattered combs some honey. It might not be a very wild guess, in such case, to say that other bees commenced promptly to work on this unprotected honey, and when that was cleaned up the marauders would turn their attention to the transferred colony, as yet in a somewhat demoralized condition, and then the robbed colony would join the robbers. This would be likely if in your locality, as in some other parts of the State, there has been something of a dearth in the harvest. It is not a safe thing to transfer when bees are not gathering.

Swarming—Italianizing—Rearing Queens—Dividing—Keeping Bees in a Building.

1. On July 8 I had a swarm come from a colony that had not swarmed for two years. About seven o'clock they came out and alighted in the top of a tall maple tree. At 9 o'clock I went to hive them; I sawed the limb off but be-

fore it reached the hive the rope broke and they fell about 4 feet from the hive, but they all went in. At noon, when I came in from the field, they had swarmed again in the hedge a block away. At one o'clock I took the same hive and tried it again and they all went in. At 3:30 o'clock I went to look at them and they were all out in front, not one inside. It was very hot and clear until 4 o'clock, when I got a sheet and set a new hive on it and shook the bees on the sheet in front of the new hive; they all went in but a few that hung to the front of the hive. At 5 it was raining; after the rain I poked them off of the front of the hive and they went in, and have been in ever since then and are doing well. Can you tell me why they did not stay the first time?

2. I am just starting, and have 2 colonies of black and 2 colonies of Italians. I would like to have all Italians. Do you think it too late to try to change now?

3. Can you tell me how to rear queens?

4. The 2 colonies of Italians are very strong and would swarm if more honey was coming in. Do you think it is too late to divide them now, or would you leave them this year?

5. I have an old building that has a vacant upstairs. Do you think it advisable to cut holes around the side and put the hives up there next spring? ILLINOIS.

ANSWERS.—1. The heat was almost certainly the whole cause of the trouble. Next time try to keep the swarm cool. Leave the cover partly off for a day or two, and if the entrance is not large raise the hive an inch or so on blocks. If the hive is not in the shade, it will help to put an armful of hay or cut grass on top and keep it sprinkled with water.

2. Plenty of time yet.

3. You ought to find pretty full instructions in your text-book, and if you want to have fullest information on the subject you can hardly do better than to get Doolittle's excellent book on queen-rearing. See also the answer to Connecticut, page 312 of this journal.

4. It is not too late to divide, but you will have to feed if necessary.

5. Such a course is advisable only as a matter of necessity. If you have room enough to set the hives on good old Mother Earth, don't bother with any vacant up-stairs.

Changing Location of an Apiary—Crossing Blacks and Cyprians.

I send you a drawing of the location of our apiary. You will see by it that our bees have to cross one-half mile over an open bleak field. I have favored the removal of the bees to the main woods where the most of the honey is gathered, believing that the bees would gather ¼ more honey if they did not have to cross a bleak field in the face of strong southern wind. Our yield this year was 6,000 pounds of section honey from 130 colonies, spring count.

1. My partner, who is half owner, is opposed to the removal, claiming that he does not think it would pay us. I would like your opinion on the matter.

2. We are introducing Cyprian queens this season, and Cyprian queens mated to Carniolan drones. Our bees are blacks and hybrids except a few colonies of Italian 5-band, and I must say after 5 years' experience with 5-band Italians that I would not have them as a gift. They are cross, and will not store in supers even if they have full-drawn empty sections, except in a very few colonies. I find the first cross between blacks and Italians are all right. What do you think of a cross between blacks and Cyprians?

NORTH CAROLINA.

ANSWERS.—1. One of the very difficult things is to make a fair estimate as to the relative value of two different locations. One should know about the honey-plants in range of each, and even with that there will be more or less guessing. A flight of half a mile is no great thing for a bee, still it is desirable to have a pasturage as close as possible. Why not compromise matters by putting part in each place and making a comparative trial? Indeed it is quite likely that the bees will do better divided than all in one place. At any rate it would help a little toward deciding the question.

2. I don't know the character of a cross between blacks and Cyprians. Some strains of Cyprians are said to be cross, and it is possible the cross might be crosser.

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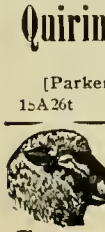

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GENERAL ITEMS

A Nebraska Report.

It looks so queer to read the reports of some of our brother bee-keepers, what discouraging reports from old bee-States, and we are having such a rush of honey and bees out here in Nebraska. I have been handling bees for over 50 years; I bought one of the first patent hives that was sold in that part of New York State; it had doors on behind, and drawers with boxes with glass in them, so we could sit and see the bees work. How many hours I have sat and watched them work, and how much I learned from it. I remember very well, though it has been over 50 years, what my old grandma said when I bought my hive, "You will never have any more luck with bees," because she did not think we should speculate in bees, for she was of the old Puritan stock that landed at Plymouth Rock. But, God bless the man that first invented the patent hives, for before that we had to rob and kill the most industrious and wisest insects that God ever made.

In all the 50 years this is one of the best of them all. This is the first year that I have taken care of my bees as I should. I started in the winter with 28 colonies, the mice destroyed 8 of them, and I bought 2 in the spring, so I had 22 to start with last spring, all good ones. I increased to 30 during plum and fruit blossom. Most of our fruit is wild, such as gooseberries, black raspberries and plums. Our bees commence on elm first, then the box-elder. In June, this year, I fed 100 pounds of granulated sugar, and kept the bees rushing so that when basswood and sweet clover came I had almost all of my 30 colonies in the boxes. When they swarmed I would

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put them back, until last week, and then I had to begin to put them into hives. The swarms are so large that they fill the old Langstroth hive, that is, the most of them. I have some colonies that I hived June 28, that have their second super almost full, and everything full below. I have two and three supers on almost all of my colonies, and one and two on the new ones.

I have 38 colonies now, and all well filled. To-day is the first day in three weeks that I have had time to write. My daughter and I have been busy almost day and night; not expecting such a rush we were not prepared for it. A. C. BUTLER.

Dixon Co., Nebr., July 15.

Poisoned by Spraying—The Gulls.

We had the same experience, some years ago, as our Wisconsin friend, mentioned on page 419, and our loss was caused by being poisoned by the blossom-spraying method. There are several causes that may vary the results—if the spraying mixture is very strong, or if used in large quantities, or if the bees are working exclusively on that class of bloom it will soon use up the colony by killing off the worker-bees; but if the solution is weak, or spread on a limited area, or if the bees in the colony go to different points of the compass, or to different localities, these conditions will sometimes produce the results as our friend complains of.

If the trouble is only temporary it may be relieved sometimes by feeding the bees to keep them in the hive for a few days.

This spraying question is a wearisome one; if we are ever going to succeed we must catch the moth with its 90 to 125 eggs at the same time. The 2 to 5 percent we are catching now is little if any better than nothing.

On spraying to thin fruit (see page 436), there is a point that the writer and ye editor seemed to have missed. It does not require a poison spray for this work; clear water will produce the same effect. Practice or judgment is the only necessary qualification, as by a big drenching at the right time the whole crop can sometimes be washed off. Nature often proves this by a heavy downpour on trees when in full blossom, sometimes destroying all, or nearly all, of the entire crop. I know whereof I speak in this matter, and I know that while a poison spray may answer the same purpose, water is better because it will not injure the fruit, which the poison may do.

While we have our share of difficulties to cope with, some drouth, smelter-smoke, grasshoppers, etc., on the whole our State is doing fairly well in the different localities. We are getting from a few pounds to a full crop, even here in smoke-smothered Salt Lake County. Our old "saviors," the gulls, are devouring the grasshoppers by the wholesale, and I think we will be able to produce a sample of our product. While I don't feel cruel, I look with gratification on the many thousands of the big white birds as they devour this miserable pest; these birds are protected by law in Utah, and they seem to know it, for they are as tame as chickens. If it were not for these gulls sometimes we would have neither crops nor honey. E. S. LOVESY.

Salt Lake Co., Utah, July 12.

Mulberries for Bees.

Don't you wish you had about 100 white mulberry trees in full bearing just now?

Most of you will agree that for reasons wiser bee-keepers than I may explain, bees, this season, have certainly "been backward about coming forward" with the usual supplies of pollen or nectar. Mine had just about existed up to two weeks ago.

For some unaccountable reasons the white mulberry fruited much earlier this season than usual by nearly a month. Ordinarily it is the first week in July before any fruit ripens, but here it is now the middle of the month, and the fruiting season is practically over.

I suppose the fact is due to so much rain. The berries were exceptionally large, but not up to their standard of sweetness. I began early to gather them, mash them to a pulp, and put on the alighting-boards. It is real

—ITALIAN—

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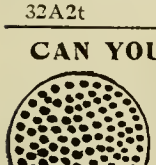

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fun to see the bees swarm all over the crushed berries, and extract every particle of substance, leaving the bare seeds as clean as if actually washed.

The weight of the hive is a certain evidence of what they did with the juice.

The more I reflect and observe, the more impressed I am with the usefulness of the white mulberry as a bee-provender, also as a beautiful shade-tree—a tree so hardy as almost to leave the conviction that it would thrive on an iceberg!

But apparent trouble comes with all good things. Before I began to feed the bees on mulberries no one desired more than to taste them. "Ach! too sweet!" Now that I wish them for the specific purpose, boys come around daily to nibble at them; but they don't stop at nibbling. I, too, have acquired a decided taste for them, and my "better half" remarked naively enough the other day, that "one felt like having just one more." Indeed, after eating a bowlful! And, too, the robins, and even a few cat-birds, have been lured by the fruit, until what I had set apart for the bees has become a coveted morsel for two-legged animals, with and without wings.

Only one way out of the difficulty—plant more of the trees. This I am prepared to do by rooting cuttings, and sowing the seed. I now have plants growing from both processes, and hope soon to be well stocked and able to make some of the most interested readers of the American Bee Journal a present of a plant to each (none for sale). Exception was taken to a previous article on the value of white mulberries for bee-feeding, that the bees could not extract the juice from the fruit. But bear in mind that I specifically stated that the berries must first be crushed before the pulp is fed to them.

DR. PEIRO.

78 State St., Chicago, Ill., July 10.

Bees Not Doing Well.

My bees are not doing very well this season. I started in the spring with 21 colonies, and now have 38 by natural swarming. I had one swarm issue at 5:15 in the morning of July 3, and at 7 o'clock there were 7 swarms flying. Four swarms clustered on one bunch, and 3 on another. I hived the 3 in another hive. I use the Langstroth hives. I got 17½ pounds of honey in 4¼ sections from one swarm in 20 days after being in the hive. I have one colony I put in a hive on July 7; they cast a large swarm, and I examined the old hive when the bees were flying, and found it filled with brood and about a dozen queen-cells. I returned them to the old hive again, and they are doing very well now.

CHAS. HEITCHLER.

Henry Co., Ohio, July 21.

One Way to Improve Stock.

A good thing is the plan Doolittle offers, to graft cells in a colony with a queen that the bees are trying to supersede. As beginners are not likely to have many such queens, but are likely to have plenty of colonies preparing for swarming, why not graft swarming-cells? They could be cut out two or three days before time for the queens to emerge, and quite a batch might be secured.—[The best time in the world for the honey-producer to rear queens, and a very choice lot of them, too, is during the swarming season. He can well afford to take the time to graft some of his swarming cells with larvæ or eggs from a choice breeder; then when those cells are capped cut them out and put them in nuclei. This is a very simple and easy way to rear queens, and is, in fact, if I mistake not, the one practiced by some of our most successful honey-producers who have become convinced that such queens are remarkably strong and vigorous. The next best colony, according to

Tested Adel Queens.

Reared by a New Method. Queens very large, prolific and handsome. One Queen, $1.00; three Queens, $2.75; six Queens, $5.00; twelve Queens, $9.00. Everything guaranteed.

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WE COULD SAVE

$500 a day if we could make PAGE FENCE of common fence wire, but it won't hold the coil.

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Low Round Trip Rates, via Union Pacific, from Missouri River,

$15.00 To Denver, Colorado Springs, and Pueblo, Colo., July 1 to 13, inclusive, Aug. 1 to 14, 23 to 24, and 30 to 31, inclusive.

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Correspondingly Low Rates From Intermediate Points.

Full Information Cheerfully Furnished on application to

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$5 TO START YOU IN BUSINESS

We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.

DRAPER PUBLISHING CO., Chicago, Ills.

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The American Institute of Phrenology,

(INCORPORATED 1866)

Opens its next session Sept. 3, 1902. For particulars apply to the Secretary, M. H. PIERCY, care of Fowler & Wells Co., 24 East 22d Street, New York, N. Y.

j. j. a.

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MUTH'S POUND SQUARE FLINT-GLASS HONEY-JARS, with patent air-tight GLASS STOPPERS, at $5.50 per gross. FAR SUPERIOR TO OLD STYLE WITH CORKS. Try a gross. Just the thing for home market.

CRATES OF TWO 60-lb. CANS, been used once, in good condition, in lots of 5 crates, 40c each; 10 or more, 35c. This lot is limited; order at once.

QUEENS! The Best Money Can Buy!

BUCKEYE STRAIN 3-BANDED are the genuine RED CLOVER WORKERS. MUTH'S STRAIN GOLDEN ITALIANS can not to be surpassed. Either of above, 75c each; 6 for $4.00. Selected tested, $1.50 each.

A trial will convince you. Send for our catalog of BEE-SUPPLIES.

THE FRED W. MUTH CO., Front & Walnut Sts., Cincinnati, Ohio.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.20	2 30	5.50	10.10
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

Prize-Winning Stock

Daughters of Moore's famous long-tongued red clover Italian Queen, which won the $25.00 prize offered by The A. I. Root Co. for the longest-tongued bees; and also daughters of other choice long-tongued red-clover breeders whose bees "just roll in the honey," as Mr. Henry Schmidt, of Hutto, Tex., puts it, now ready to go by return mail. Untested Queens, 75c each; six, $4.00; dozen, $7.50. Select untested, $1.00 each; six, $5.00; dozen, $9.00. Safe arrival and satisfaction guaranteed. Circular free.

J. P. MOORE,
28Etf Lock Box 1. MORGAN, KY.
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Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

O. H. HYATT,
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WANTED

WHITE CLOVER COMB HONEY—near New York City. Give grade and price wanted.

W. H. YENNEY,
32A3t Glassboro, N. J.

DAIRYMEN ARE DELIGHTED
to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.

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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep
has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.
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We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich
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The Life of the Wheel
depends upon the make of the wheel
ELECTRIC WHEELS
last almost forever. Fit any wagon, straight or staggered spokes. Write for the catalogue. We mail it free.
ELECTRIC WHEEL CO., Box 16, Quincy, Ills.

Queens Now Ready to Supply by Return Mail

Stock which cannot be excelled. Each variety bred in separate apiaries, from selected mothers; have proven their qualities as great honey-gatherers.

Golden Italians Have no superior, and few equals. Untested, 75 cents; 6 for $4.00.

Red Clover Queens, which left all records behind in honey-gathering. Untested, $1.00; 6 for $5.00.

Carniolans —They are so highly recommended, being more gentle than all others. Untested, $1.00.

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C. H. W. WEBER, 2146-2148 Central Avenue, **CINCINNATI, OHIO.**
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Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.
7A26t Please mention Bee Journal when writing

our experience, is the one that is trying to supersede queens. Indeed, we consider such a colony a prize, and set it apart and keep it breeding and filling out cells.—EDITOR.]—Gleanings in Bee-Culture.

Moisture in Cellars.

"A York County Bee-Keeper" says in the Canadian Bee Journal:

So Mr. Alpaugh thinks that a perfectly dry cellar is not an ideal place to winter bees in? There are others who hold the same opinion. Just a short time ago a bee-keeper friend was telling me that the past winter he had part of his bees in his cellar, which is very dry. The bees were quite noisy and restless, temperature 44 degrees till along towards spring; during a heavy rain, water contrived somehow to fill up the drain around the cellar, when the bees at once quieted down and remained quiet as long as the water was there. Looks as if Doolittle's idea, that bees need moisture more than fresh air, is about right after all.

Our Nomination as a Candidate for General Manager.

In Gleanings in Bee-Culture for July 15 appeared the following, which was written entirely unbeknown to us, and consequently without our consent:

GEORGE W. YORK FOR GENERAL MANAGER.

I consider Mr. George W. York, editor and owner of the American Bee Journal, as the logical candidate for General Manager of the National Bee-Keepers' Association at the election to be held in December, 1902. It is common knowledge that Mr. York stands in the foremost rank of bee-men in America, and that he has always had the interest of the National and of bee-keepers in general at heart. Mr. York is ex-President of the National, and right in the line for promotion.

It is probably not generally known that Mr. York received the next highest number of votes for General Manager after Mr. Secor at the last election. Mr. York has declared repeatedly that he is not a candidate for any office, but I believe he would obey a unanimous call, and sacrifice his personal feelings to the good of the greatest number. He is in position to do great good in the way of publicity and promotion, and his journal has always been ready to forward the interests of the National. HERMAN F. MOORE.

In a foot-note comment on the foregoing, Editor E. R. Root wrote this:

It is true that Mr. York has repeatedly declared he is not a candidate for the office of General Manager. I once broached the subject to him, and he very positively declined to be considered a candidate. He based his refusal on the ground that no bee-editor should take the office. But if he were to get the *unanimous* support he *might* reconsider. Personally I know he would make a good General Manager; and I do not see why the fact of his being an editor of a bee-paper should stand in the way of his considering the office. Mr. Secor has said he wished to be relieved. Just what his future action will be I do not know. There are a dozen good men whom I could support as candidates, and Mr. York, Mr. Hutchinson, Mr. France, and Mr. Secor are some of them.

Now, when I say I do not believe that the position of editor bars one from being General Manager, I wish to say emphatically there are other reasons why I, as one of them, can not and will not be considered as a candidate; but I can give my support most cordially to any other bee-editors.

I suspect the publication of this letter from Mr. Moore will raise a breeze with Bro. York. Well, let him raise the wind, Mr. Moore and I can stand a good deal—these *hot* days. The Association needs some men who can *cool* things off a little.

Certainly, all the above is very pleasant, and appreciated, but we really do not care to have the office of General Manager. We have often said that we did not think that an edi-

tor of a bee-paper should hold the position of General Manager. We are still of that opinion. And yet we realize that we have a duty to perform to our friends as well as to the cause we represent and are so deeply interested in. We are here to serve wherever best we can; and, as Mr. Root suggests, were the support on the part of the membership practically unanimous for us as General Manager, we would in duty bound feel that we should reconsider, and work where the majority wanted us to be. That would simply be in the line of duty, as we see it.

Whether or not a bee-paper editor be General Manager of the National Bee-Keepers' Association is not a matter of right or wrong. If it were, and we felt that it would be a wrong thing for us or any other editor to hold the position, we would oppose it as strongly as we could, no matter how hot or how cool the weather.

Personally, we would not do a single thing to win the position. It is no easy job. It is of no financial advantage to any one, as both Mr. Newman and Mr. Secor can easily testify. It means a lot of careful, conscientious work, but work that needs to be done, and done well, for the good of bee-keepers and the pursuit in which they are vitally interested.

So, all we can say now is, that if elected to the position of General Manager we would simply endeavor to fulfill its requirements to the best of our ability. If not elected, there will be nothing to regret on our part. We would expect to continue to labor for the good of bee-keepers and the Association just the same as we have done heretofore, counting it a privilege to have been permitted to aid so worthy a band of the world's workers.

Against Liquor and Tobacco.

Prohibitive rules against the use of liquor and tobacco have become now so nearly universal among railway and other large corporations that the recent action in this direction taken by the Chicago & North-Western Company did not receive the attention it deserved. It established far more rigid rules than ordinary, inasmuch as the company not only forbids the use of intoxicants, but forbids its men frequenting places where they are sold. An employee who does either is liable to get a curt note of dismissal from the general superintendent or the general manager. The operation of trains in this day of high speed and congested traffic requires every ounce of brain and nerve force an employee can bring into action, and for this reason the management of the North-Western does not purpose having the brains of its passenger-men befogged with whisky and tobacco. Regarding the new rule prohibiting the use of tobacco an official of the company said:

"Cleanliness and neatness are important factors in the railroading of to-day, and these considerations alone are sufficient warrant for a prohibition of the use of tobacco by employees when on duty. We desire that employees shall not make our property disgusting to travelers by the use of tobacco, and themselves steeped by tobacco-poison while on duty. I believe, however, that the use of tobacco by railroad men engaged in train operations is fast decreasing, and the time will come when a tobacco-user will be as unwelcome in the transportation departments of the railroads as a drunkard is now."

Young men who are contracting the tobacco habit in any form, or who take liquor of any kind as a beverage, or associate with those who do, may as well give up all hope of entering business life. They are not wanted. The door of success is shut before they approach its threshhold.—Ram's Horn.

CLOSE SATURDAYS AT 1 P.M.—Our customers and friends will kindly remember that beginning with July 1, for three months we close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, JOHN THOEMING.

MONTHS	July and August.		
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00
GOLDEN QUEENS			
Untested	$ .75	$4 00	$ 7 00
Tested	1.00	5.00	10.00

Select tested, $2.00. Breeders, $5.00 each.

2-frame Nucleus with Untested Queen, $2.25 each; 3-frame Nucleus with Untested Queen, $3.00 each; 6 for $2.75 each.

D. J. BLOCHER, Pearl City, Ill.

27Atf Please mention the Bee Journal

Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY, Chicago, Ill.

Bees For Sale

On account of removal I will sell my 13 colonies of Bees, including a $5.00 Doolittle Queen, for the cost of hives and fixtures.

E. L. DRESSER, Divernon, Sangamon Co., Ill.

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BOYS WE WANT WORKERS

Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

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"What Happened to Ted"

BY ISABELLE HORTON.

This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address,

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227 EAST OHIO STREET, CHICAGO, ILL.

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That covers the whole Apicultural Field more completely than any other published, send $1.25 to

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FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

A Golden Opportunity!

A few tested 5-banded stock, $1.50. Red Clover Queens balance season, 50 cents.

R. R. No. 6. J. F. MICHAEL, Winchester, Ind.

32A2t Mention the American Bee Journal.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 19.—Not any comb honey of the new crop yet on the market, but advices of this week would indicate that some sections of the country are now prepared to ship as soon as any demand appears, and beginning with August there has in past seasons been more or less of a market, and it is looked for to begin this year on time. This for several reasons, one being that we are going to have some choice white clover and basswood to offer, which has not been over plentiful during the past three or four seasons. Prices are nominally the same as during the past 90 days. Beeswax sells at 30c.

R. A. BURNETT & Co.

KANSAS CITY, Aug. 2—Receipts of comb honey increasing; fairly good demand. New fancy white, 14@15c; No. 1, 13@14c; amber, 12@13c. Extracted, white, 6c; amber, 5@5½c. Beeswax, 22@25c. C. C. CLEMONS & Co.

CINCINNATI, July 26.—Considerable stock of 1901 crop fancy comb on the market and sells at 14@15c; there is a call for new comb honey, as yet none on the market; this market demands fancy comb; all other grades discourages trade. Extracted is in fair demand at 5½@6c for amber and 7@8c for clover. Beeswax, 28@30c. THE FRED W. MUTH CO.

ALBANY, N. Y., July 10.—Honey market not opened yet for this season, but we look for demand to begin in a couple weeks. No old crop in the way. Expect good demand and good prices for new crop, which is very light in this vicinity. H. R. WRIGHT.

NEW YORK, July 7.—There is some fair demand for comb honey at 14c for strictly fancy white; 12@13c for No. 1, and 10@11c for amber. Extracted quiet at unchanging prices. Beeswax dull and declining at 29c.

HILDRETH & SEGELKEN.

CINCINNATI, Aug. 2.—Some small lots of new comb honey have been coming in, but as the weather is so warm there is very little demand. That sold to stores brought 15c for fancy.

The market for extracted was more lively, brings as follows: Amber, 5@5½c; alfalfa water white, 6@6½c; and white clover, 7@7½c. Beeswax, 30c cash. C. H. W. WEBER.

SAN FRANCISCO, July 23.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

There are moderate quantities arriving, with asking figures in the main above the views of wholesale operators. Business doing at present in this center is principally of a small jobbing or retail character, and in this way transfers are being made at an advance on any figures which would be warranted as quotations based on values for round lots.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.

21Atf Mention the American Bee Journal.

WE can place a few cars of COMB AND EXTRACTED HONEY. Will be glad to correspond with parties having some to offer. We also solicit local consignments.

C. C. CLEMONS & CO.,

29A9t 306 Grand Ave., KANSAS CITY, MO.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no drip cases.

THE FRED W. MUTH CO.

32Atf Front and Walnut, CINCINNATI, OHIO.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

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BINGHAM'S PATENT SMOKERS

24 years the best. Send for Circular.

25Atf T. F. BINGHAM, Farwell, Mich.

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THE W. T. FALCONER MFG. CO.,
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☞ Our goods are guaranteed of superior quality in every way.

Send for our large illustrated catalog, and copy of

THE AMERICAN BEE-KEEPER,

a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)

☞ W. M. GERRISH, E. Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

THE RURAL CALIFORNIAN,
218 North Main Street, - LOS ANGELES, CAL

$300,000,000.00 A YEAR and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.

Danzenbaker Hives.

☞ In flat and made up—at very low price. ☜

50Ctf O. C. MASTIN, Trent, S. D.

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THE
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If not, why not? You get it **a whole year for 25 cents.** Your money back, if not satisfied. **Sample Copy Free.** Get two of your farmer friends to take it a year, send us 50 cents, and **get yours free.** Send their names **for samples.** Address,

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BARNES' FOOT POWER MACHINERY

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
995 Ruby St., Rockford, Ill.

The American Poultry Journal

325 Dearborn Street, CHICAGO, ILL.

A Journal that is over a quarter of a century old and is still growing must possess intrinsic merit of its own, and its field must be a valuable one. Such is the

American Poultry Journal.

50 cents a Year. Mention the Bee Journal.

C. P. DADANT. 1851.

CHAS. DADANT. 1817—1902.

L. C. DADANT. 1879.

To Our Friends and Customers.

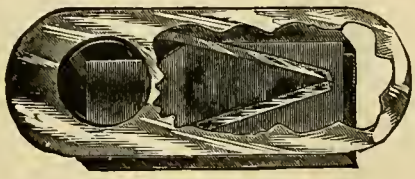
Our senior member, Mr. Chas. Dadant, died after a short illness, July 16th. He was eighty-five years of age.

The status of the firm will remain the same, Louis C. Dadant joining his father C. P. Dadant, under the firm name of

DADANT & SON,
HAMILTON, ILLINOIS.

The Porter Spring Escape

is a great labor-saver. Don't lift the heavy super, shake and brush the bees, cruelly smoke and cause uncapping, stings and robbing.

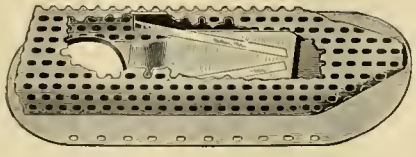


Use it, and make work a pleasure instead of a dread. Try it, and you won't be without it again. Price, 20 cents.

— THE —

Porter Honey-House Escape

clears the extracting-house of bees. The worst robber cannot return. One over each window and door will save you great



annoyance. If you tier up the supers to rid of bees this is the **BEST** of Escapes. Try it and you will wonder how you got along without it so long! Price, 20 cents. Address,

THE A. I. ROOT CO., Medina, Ohio.

Also for sale by all our branch houses and agencies, and all dealers in bee-keepers' supplies.

GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

National Bee-Keepers' Convention at Denver, Sept. 3-5, '02

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., AUG. 14, 1902.

FORTY-SECOND YEAR
No. 33.

WEEKLY

APIARY OF DANIEL WHITMER, OF ST. JOSEPH CO., IND.
(See page 516.)

A STANDARD-BRED

QUEEN-BEE FREE

To Our Regular Paid-in-Advance Subscribers.

We have arranged with several of the best queen-breeders to supply us with **The Very Best Untested Italian Queens** that they can possibly rear—well worth $1.00 each. We want every one of our present regular subscribers to have at least one of these Queens. And we propose to make it easy for you to get one or more of them.

In the first place, you must be a regular subscriber to the American Bee Journal, and your own subscription **must be paid in advance.** If it is not already paid up, you can send in the necessary amount to make it so when you order one of these fine Queens.

A Queen Free for Sending One New Subscriber

Send us $1.00 and the name and address of one **NEW** reader for the American Bee Journal, and we will mail you one of the Queens free as a premium.

Now, go out among your bee-keeping neighbors and friends and invite them to subscribe for the old American Bee Journal. If you want some to show as samples, we will mail you, for the asking, as many copies of the American Bee Journal as you can use.

Should there be no other bee-keepers near you, and you desire one of these fine Queens any way, send us $1.50 and we will credit your subscription for one year and also mail you a Queen. Of course, it is understood that the amount sent will pay your subscription at least one year in advance of the present time. So, if your subscription is in arrears, be sure to send enough more than the $1.50 to pay all that is past due.

As the supply of these splendid Queens is limited, we prefer to use all of them as premiums for getting new subscribers. But if any one wishes to purchase them aside from the Bee Journal subscription, the prices are as follows: One Queen, 75c.; 3 Queens, $2.10; 6 Queens for $4.00.

We expect to be able to fill orders by return mail, or almost as promptly as that, so there will be no great delay at any rate.

Now for the new subscribers that you will send us—and then the Queens that we will send you! Address,

GEORGE W. YORK & CO.,

144 & 146 Erie St., CHICAGO, ILL.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., AUG. 14, 1902. No. 33.

Editorial.

White Clover has an unusual history this year, at least over a considerable extent of country. The unusually cold and wet weather of June, while destroying all hope of the usual June clover yield, kept the clover plants in an increasingly luxuriant condition, so that instead of becoming exhausted in June, the plants were actually blooming more profusely the last of July than the first of June. One correspondent in northern Illinois wrote us Aug. 4:

"I fed throughout the entire month of June to prevent starvation. With July came pasturage enough to supply the daily needs of the bees, but only with the coming in of August has it appeared that there may possibly be some surplus from white clover, although it is too early to tell yet. There has been no time without white clover blossoms since the first week in June, but the number of blossoms has been constantly on the increase up to the present time."

This is certainly remarkable, considering that it is not often that white clover continues to yield much beyond the middle of July. If it should turn out that clover, having given no surplus whatever previous to the first of August, should then yield a surplus, it will be something contrary to the memory of that distinguished individual—"the oldest inhabitant."

Shallow Hives.—W. K. Morrison says in Gleanings in Bee-Culture that when shallow hives are used it is better to use drawn combs than starters in hiving a swarm, so as to prevent pollen in sections. "The section-super in the case of an older colony should be placed on the hive earlier in the season than is the case with ordinary hives." "Full sheets of foundation must be used in the sections, otherwise there is trouble," probably because of the queen going up.

Profits of Bee-Keeping.—The Saint Joseph Daily News contains an article of more than a column relating to the bee-industry, in which many good things are said, the article apparently resulting from an interview with our well-known friend, Rev. Emerson T. Abbott. It is a good thing that the daily press can be interested in our pursuit, but there is always danger from misleading statements like the following:

The profits in bee-keeping are larger in proportion, according to the money invested, than of any other rural pursuit. Starting in the spring with one colony, costing $6.00, the yield will be 50 pounds of honey and a good swarm. The honey should bring on the open market 15 cents per pound, or a total of $7.50, and the swarm would be worth as much the following spring as the original colony. It is a fact that small quantities are a more paying investment than the handling of many colonies, as when grouped they can not be handled so well, and contingencies arise which materially reduce the profits.

Pity that Mr. Abbott had not censored the article before it went to press, for reporters seem to have a special aptitude for getting a little "off" when it comes to matters pertaining to bee-keeping. The average reader will plainly understand from the statement quoted that he may count on a profit of $13.50 a colony—$7.50 for the honey and $6.00 for the swarm. Most bee-keepers would be willing to pay a good premium to be insured the half of $13.50 per colony annually.

Wintering Bees in Canada.—The Ontario Association called for reports as to wintering, and 55 members with 4303 colonies responded. The average losses are given in the Canadian Bee Journal as follows: In pit, 3.3 percent; in bee-house, 3.9; in cellar, 7.2; packed outside, 7.3; in dug-out, 12.5 percent.

"A Tale of Blasted Hopes" is the heading to a collection of crop reports from the different quarters of Colorado in the Rocky Mountain Bee Journal. Of the 29 reports quoted, nearly all warrant the heading given, and only two report a good crop.

Editor Root says that after reading hundreds of letters he thinks some regions will have a crop, others none. Readers of this journal will have noted that reports in general have not been of the most favorable character. Late flows may, however, be better than anticipated. Ours is a large country, and likely it will average up to fairly well.

The British Bee-Keepers' Guide-Book, by the well-known authority, Thomas William Cowan, has passed through 16 editions, comprising in all about 40,000 copies, and the 17th edition has now made its appearance. That others besides our British cousins appreciate the work is evidenced by the fact that no other text-book on bees has been translated into so many languages. What many have felt to be a lack in the book has now been supplied by a fine likeness of the author.

The American reader will be struck by the fact that locality, fashion, or something else, makes no little difference in the implements and plans described in this book as compared with those in vogue in this country. The British, for example, have a standard frame, 14x8½ inches. In this country there is no standard frame, the one most in use being probably the Langstroth, 17⅝x9⅛. Ten or eleven frames are generally used in the British hive, ten giving nearly the same comb surface as eight Langstroth frames.

Don't Put Honey in the Cellar.—In the Rocky Mountain Bee Journal the advice is given, "Do not store honey of any character in the cellar." If that is sound advice in one of the driest States in the Union—so dry that in the cellar is a good place to keep bread—it is eminently sound advice in places where cellars are so damp that great drops of moisture are frequently seen standing on the wall. Of course, not many bee-keepers are likely to make a mistake in this regard, but it is well to keep it constantly in mind so as to caution consumers, for the average housewife is pretty sure to consider the cellar just the place to keep honey.

Formalin and Foul Brood.—Those who have any personal experience with foul brood will be interested to know particularly about the experiments of Prof. Harrison, in Canada. It must not be understood that formalin is a drug that can be administered to a colony to cure it of foul brood any more than the fumes of sulphur could be administered to a colony to rid it of the larvæ of the bee-moth. The fumes of the formalin will kill the bacilli and the spores of foul brood, and an agent powerful enough to kill the spores could not be expected to be without effect on bees and brood; as a matter of fact, all forms of bee-life will be promptly killed by the fumes, so the drug works merely as a disinfectant. It is much, however, if the combs can be saved to be used again.

The exact manner in which Prof. Harrison proceeded is thus given in the Canadian Bee Journal:

Sections of comb were taken out and placed in a box the same size as an ordinary hive. The exit at the bottom was plugged up, with the exception of a small hole, and a small opening about half an inch in diameter was left at the top. To the lower hole was affixed a formalin apparatus consisting of a small alcohol lamp at the bottom, with a reservoir at the top which contains formalin.

Formalin, I might say, is the trade name given to a 40 percent solution of formaldehyde gas in water. A small portion of this is put in the reservoir over the alcohol heater, and then the top is screwed down. The top connects with a small hose-pipe, and it is placed in the lower hole of the hive. Directly after the apparatus is attached the alcohol lamp is lit and the formalin is vaporized and spreads throughout the hive. This means of disinfecting the hives was used; and the wax of the comb that was placed in it was several years old, judging from the looks of it, and contained dead larvæ, foul brood,

and also a certain number of capped cells, so that probably all the conditions were present which would be met with in a bad case of foul brood.

After the gas had spread through the hive, and the smell of the gas could be noticed issuing at the hole at the top, this top hole was closed, and almost immediately afterwards the formalin apparatus was disconnected and that lower opening plugged up, and it was kept there from one to four hours. At the end of that time the hive or box was opened and the combs taken out and a careful examination made, not only of the capped cells but all of the foul-broody cells and also certain marked cells which contained honey and also spores of the foul-brood bacillus.

In not a single instance did foul-brood germs grow from these combs after they were treated. And since then I have performed the experiment three separate times with three other distinct combs and with the same success, and in each case the germs were killed, whether they were in dead larvæ, whether they were in honey, or whether they were in capped cells.

Pure Queen-Fertilization. — Among several plans given by Mr. Doolittle in Gleanings in Bee-Culture, he prefers the following, adding that for securing honey the mismated queens will give just as good results as those purely mated:

Give to all colonies which have good Italian queens one or two frames of drone-comb, so that large numbers of drones will be reared in these Italian colonies, which will be very likely to secure the pure mating of from one-fourth to one-half of your young queens; and when one is found that is impurely mated, kill her and give the colony a queen-cell from your best pure breeder, and try again. As your colonies increase, your drones will increase also; and the more drones reared in your Italian colonies the better will be your chances of having all purely mated.

Weekly Budget.

Mr. J. T. Calvert, of the A. I. Root Co., passed through Chicago last week on a western trip with stop-offs in Colorado, Utah, California, Oregon, Washington, and then back through Minnesota. It will be quite a "swing around" among the bee-supply dealers. He expects to be home again about the middle of September. He reports a good season's business for 1902 at the Root factory.

Questions for the Convention.—Secretary Mason, of the National Bee-Keepers' Association, requests us to publish the following:

Sta. B, Toledo, Ohio, July 30, 1902.
Editor American Bee Journal—

Please say to your readers that if any of them who have any questions to ask that they would like to have answered at the Denver convention, will send them to me soon, I will present them for replies.

Very truly yours,
A. B. Mason, *Sec.*

Quoting the Honey Market.—A subscriber sends us the following in reference to this subject, which was discussed by the commission men in these columns recently:

Mr. Editor:—In that interesting symposium giving views of the middlemen as to quotations, part of them think it better to quote the market a little too high than too low, while another part think it better low than high. That makes us producers suspect that part of the quotations are a little up and part a little down As we want to get nothing but the truth from the "Old Reliable," what are we to do? Couldn't you stick a tag on the end of the high fellows, saying, "Shave these figures down a little." And another for the low fellows, reading, "Boost these figures a trifle?" Producer.

Look here, do you want to get us into trouble, and perhaps be the cause of a murder? The idea of wanting us to "stick a tag on the end of the high fellows?" *Which end?* And what if we couldn't reach up? And another on the low fellows! Isn't that awful?

Then, what kind of "figure" do you suppose the market-quoting "fellows" would cut after they had been "shaved" or "boosted?" No, sir, we'll not "play tag" with them, nor allow any shaving or boosting of their "figures." Why, it might *dis*figure them, and perhaps get us into a peek of trouble. Excuse us, please!

Daniel Whitmer's Oak Leaf Apiary.—When sending the picture of his apiary (shown on the first page) Mr. Whitmer wrote us as follows:

This apiary was established about 1880, and has never known a failure in a crop of good honey. Neither has it ever been diseased in any way whatever. It has never been infested with the bee-moth except in a limited degree. I have never fumigated a particle of the honey, neither do I think it is necessary if the apiarist is on duty and observing.

I have kept the Italian bees almost exclusively, believing them to be the most desirable, although I have manipulated other races in a limited way.

The "Oak Leaf Apiary" started with 2 colonies, and the maximum number consisted of 247 colonies, and were manipulated successfully in one yard by myself when at home, otherwise my wife and daughter did the work.

I produce both comb and extracted honey, and have never taken less than 10 cents per pound for the extracted, and have had as high as 18 cents; and for comb honey I have received from 10 to 22 cents per pound.

It will be noticed in the front row, just north of the tub of water, an observatory hive upon a stand one foot high. This colony I denominate my "Missionary Hive," the entire proceeds of which I appropriate to the missionary work of the church. One year I secured $8.00 from it for that purpose.

I have my hives placed 4 feet apart each way, and do not experience any difficulty in running my apiary.

The picture does not show nearly all of the hives in the apiary.

Last fall, after the first zero weather, I brought 20 colonies from an out-apiary in a wagon-bed on a stoneboat, and hauled them 6 miles with the hives open, and but one bee escaped and took wing that I saw. I placed them in the cellar without a flight, and they wintered finely. Daniel Whitmer.

On the Way to Denver

SCENE NEAR KEARNEY, NEBR., ON THE UNION PACIFIC RAILROAD.

On the Way to Denver.—Here are a few questions from a Wisconsin reader that may interest all who are preparing to go to the Denver convention, Sept. 3, 4 and 5:

Editor York:—I am thinking of taking in the Denver meeting, and would like to know—

1. If the rates will be low from all points, or just from central points like Chicago?
2. For how long a time are those excursion tickets good?
3. Can a person stop off in going to or coming from Denver?
4. Can a person go one way and return another?

Please post us up a little more fully.

B. T. Davenport.

We reply as follows, after interviewing a representative of the Chicago & North-Western Railroad Company:

1. Low rates cover all points.
2. By having the time on the tickets extended at Denver, they will be good until Oct. 31.
3. Yes; at points west of the Missouri River.
4. No—not at the low rates.

Close Saturdays at 1 p.m.—Our customers and friends will kindly remember that beginning with July 1, for three months we close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

Contributed Articles.

No. 4.—Improving the Race of Bees—Queen Pointers.

BY ADRIAN GETAZ.

(Continued from page 264.)

Summing up the preceding pages, we may say :

1st. In breeding stock of higher animals, close parentage can be allowed, provided defective individuals are rejected. Close parentage or inbreeding has the advantage of surely perpetuating and increasing the qualities already acquired. There is no reason to think that it would be otherwise with bees.

2d. The nurse-bees have no influence except what may arise from insufficient feeding, lack of warmth or other physical conditions.

3d. The drones have at least as much influence on the workers as the queens, and probably more.

Since the preceding numbers were written, Mr. Doolittle has published some of his experiences on the subject. When he first introduced Italian queens in his locality there were none but pure blacks in the whole neighborhood. The first mismated queens were necessarily a first cross between blacks and Italians. He says that in nine cases out of ten the hybrid workers exhibited the characteristics of the drone-stock. The workers from the Italian queens mated to black drones would show the disposition to sting, running from the combs, capping the honey white, which belong to the German race of bees. On the other hand, the hybrids from a black queen mated to an Italian queen would have all the traits peculiar to the Italian bees. He does not say anything about the color. The experiment could not be repeated now. The two races are so much intermingled that we never know certainly whether we have an absolutely pure queen of any race, and still less about the drones.

4th. The mating of the queen has no influence on the drones she produces.

Now let us go to work.

THE NURSING COLONY.

The colony in which the young queens are to be reared must, of course, be made queenless, and must be very strong in nurse-bees so as to insure sufficient warmth and generous feeding. Plenty of feed should come either from the field or from the sugar-barrel. Somebody lately claimed that some colonies or strains of bees feed their brood more generously than others. That may be, but I doubt it. I think the honey-flow, and, above everything else, the number of nurse-bees in proportion to the amount of brood to be fed, are the factors in the case.

THE TIME OF YEAR.

After the honey-flow, even when the apiarist does not especially work in view of improvement of the stock.

For several reasons. It does not interfere with the surplus-gathering. The apiarist has comparatively little to do. The drones can be controlled. In the South there is no difficulty in rearing queens at that time of the year. Simply by feeding abundantly, I can get all the worker-brood, drone-brood and queen-cells I want; and occasionally some swarms, that I don't want. In the Northern States the weather is already cool at that time of the year, and it is sometimes difficult to induce the bees to rear drone-brood.

RE-QUEENING EVERY YEAR.

Excepting the queens that are reserved for breeders, that the apiarist wishes to test a second year, I am more and more inclined to think that it is best to re-queen every year.

1st. It prevents swarming to a great extent. A young queen being more active and more vigorous will, somehow or other, induce the bees to empty and prepare the cells for brood-rearing; and probably more honey stored in the surplus apartments and less in the brood-nest. It is a well-known fact that the failure of the queen to lay a sufficient quantity of eggs is the chief cause of swarming or supersedeing, whether the failure is due to the queen or to the want of empty comb. And it is well known that the colonies with young queens are less apt to swarm than those with old queens.

2d. There will be less drones reared. Somebody here will say, "Why don't you cut out all drone-comb from your hives?" Well, I used to do it much more closely than now, and I thought there were only a very few drones in my whole apiary. In fact, I saw only a few now and then. When I began using queen-traps, I found that there were a great many more than I thought, and I discovered, also, that a great many were undersized and had been reared in worker-cells.

The fact is that a queen will lay but very few drone-eggs the first year (if she has no drone-comb); but their quantity will increase every year, and if no drone-cells are there they will be laid in worker-cells.

BUYING OR REARING QUEENS.

For the one who is not interested in "improving the races of bees," and who owns hundreds and perhaps thousands of colonies, the question might be asked: Would it not be cheaper for me to buy my queens than to rear them, having already more work than I can do?

I think it would be cheaper, and besides, that the queens reared by an experienced and well-equipped queen-breeder are probably better than those reared by an ordinary bee-keeper.

But there is a "but" in this case. That is, the queens are sometimes more or less injured by the transportation, and their laying faculties thereby impaired. It seems to be due to rough handling through the mails. And there seems to be a difference according to the line of transportation they come. At least it is so in my locality. Those coming from a certain direction are very often injured.

Often, apiarists think that the queens they buy are impure or mismated. But they must remember that the bees of an apiary mix considerably more than is suspected. I have several five-banded queens, and in their colonies three-banded hybrids and even black bees can be seen in small numbers. But when I look close I find that the very young bees are invariably five-banded, showing conclusively that the other strains come from the other hives of the apiary.

THE BREEDING COLONIES.

As stated above, the colony that is to rear the queen must be queenless, strong in bees, especially young bees, and well fed.

The one that is to rear the drones should be supplied with drone-comb, and also well fed. In order to prevent any interruption or delay this should be all ready at the end of the flow. The drones driven from the other hives are apt to take refuge in the ones that are fed. A judicious use of the queen-trap will dispose of the intruders.

The colony that is to furnish the brood (it may be the same that furnishes the drones or it may not), has also to be fed.

THE PROCESS.

There is no need of artificial queen-cells, transfer of larvæ, etc., for one who rears queens only for his own use. Besides that, the one who is not experienced in the business may fail. He may injure the larvæ during the "transfer," or choose some too old, or do it so awkwardly that the bees will have to remove the jelly and replace it. This will necessarily check, to some extent, the growth of the larvæ. Whether the delay is injurious or not, I don't know. Better avoid it.

We will simply take a comb of eggs and very young larvæ, cut under the eggs and larvæ holes wide enough to accommodate good cells, and as long as convenient, and put the comb thus prepared in the nursing colony. As soon as the cells are started an examination is made, and if some are built too close together, a few are destroyed so as to give sufficient room to the others. We want none but good, big cells—they give the best queens. Exactly why, I don't know. Perhaps big cells and plenty of room go together.

As soon as these cells are capped, or thereabout, we can give another comb and start the next batch of cells.

Two or three days after the cells are capped they are put in cages. The cages are either left in the nursing hive or put where the queens are to be introduced. In that last case the queen must be removed.

QUEEN-CAGES.

I make my own queen-cages for sake of cheapness. The West cages are all that can be desired, but they cost too much. I make them of wire-cloth ; the two edges are sewn together with foundation wire. They are made over a round stick of wood. A few small saw-cuts across one side of the stick helps to pass the wire under. At the top end I put a ring of thick wire, one end of it projecting as a handle to fasten the cage to the comb. The wire-cloth is simply turned over the ring. The other end is closed permanently, by pinching the sides together. The top end can be closed by any kind of suitable stopper.

The queen-cells are cut with a small piece of comb forming a tail-piece. They are introduced in the cage at the top, and the tail-piece pressed into the wire-cloth so as to hold the cell, and the stopper put in.

Care must be taken in constructing the cage that no wire should protrude inside so as to injure the queen.

As far as I know, it will not do to cage queen-cells just after they are sealed. At that time the end is very thick. As soon as the queen has spun her cocoon, the bees remove the surplus wax ; the end of the cell in then smoother, somewhat darker, and of a leathery appearance. If the surplus wax is not removed, the queen cannot cut her way through, and dies in the cell. At least I had a few that I thought were lost that way.

The cages should be placed at least two inches apart, that is, after the young queens have emerged. I did once put a number of them close together, and lost nearly all the queens. I suppose that they worried themselves to death trying to destroy each other.

No feed is needed. The bees will feed the caged queens provided the cages are within the cluster, that is, where the bees are constantly. Knox Co., Tenn.

(Continued next week.)

What Caused the Bees to Die ?—Was it Spraying ?

BY PROF. A. J. COOK.

The following letter from Mr. J. Luther Bowers is of great interest, and I am glad to send it for publication in its entirety :

PROF. COOK :—I want to give you an account of my bees. Something like six or seven weeks ago I noticed by getting out early, say before sunrise, a great many young bees, just hatched, on the alighting-board in the last struggles of death ; and from that time until the present I find the same thing, and at this writing, in front of each hive, there are from one pint to half a gallon of dead bees.

The bees are close to the house and part of the garden which is always free of weeds. Now this ground has been, each morning, literally covered with bees crawling in every direction, and, when I irrigate, the little ditch gets clogged with bees. Some of my hives are almost depopulated. I have examined hive after hive. The young bees seem to gnaw out all right, but do not seem to be perfect. This morning, in my rounds, I found one of the best queens dead on the alighting-board with other dead bees. This queen I received April 10, 1902. I opened some of the hives of the strongest colonies and found only a few just-hatched brood (but no eggs), and those were scattered, none together, in all cases from five to eight cells apart. One hive was well filled with bees, and most of the brood-nest cells partly filled with a very light honey. There was no sealed brood in this hive, and no eggs found ; I did not look for a queen, as I concluded she was dead, too.

I have tried three times to get a very strong colony to build queen-cells ; in fact, I have tried three different colonies during the period named. On June 3 I took away the queens ; on the seventh day I destroyed all queen-cells and inserted in each a nice frame of brood and eggs in all stages ; on June 21 I opened each of these hives, but not a queen-cell did I find. I again gave each a frame of brood and eggs ; I did not open the hives again until July 4, and to my astonishment no queen-cells had been built. I again gave them each a nice, new comb with fresh eggs, not over five days since they were laid, and to my surprise no queen-cells, but this comb was filled with honey and no brood whatever.

I have reared many queens—made a business of it prior to 1882. I never ran up against a case like this before. My hives have no smell. I never saw a case of foul brood in the East or in California.

I have been so situated that I could not keep bees until the last two years. When I first came to California, in 1883, I had charge of John Bidwell's bees in Butte County. There were some 300 colonies. Since that time I have been superintendent of five large fruit-ranches, and at the present time I am manager of the Fisher Lake Packing Co., and have here quite a little apiary.

February 1, 1901, I got two colonies in soap-boxes, and had 7 swarms. In the fall I began the winter with 9 colonies, and secured 110 sections of nice, white honey. I wintered 9 strong colonies, have secured about 200 sections of honey this season, and have 27 colonies ; but the way things look now I do not know how many I will have in another month.

My bees have had for flora, mustard, hoarhound and black sage since fruit-bloom ; and at this time a field of 60 acres of radishes, and also a field of lettuce of 110 acres, are in full bloom, to which they have free access. During the last six or seven weeks the buckeye has been in bloom, and at our county convention, July 5, it was suggested that the buckeye bloom was the cause. I have visited other apiaries and find them as bad as mine. I have tried to give you the facts. Can you give me the solution, or a remedy, or tell the cause ? J. LUTHER BOWERS.

Santa Clara Co., Calif., July 15.

ANSWER.—I have never known but one case at all like the foregoing, and that was a case of wholesale poisoning by spraying fruit-bloom. A large apple-orchard at Grand Rapids, Mich., was sprayed while in full bloom. The season was propitious, and the bees swarmed on the trees eager for the tempting nectar. The result was great loss of bees in all stages—brood, young bees, old bees, and even queens died. If it was earlier when the orchards were in bloom, and the orchards being sprayed for codling-moth or canker-worm, I should feel pretty sure of the cause of the alarming mortality.

Can it be possible that poisoned honey was stored weeks ago, and is now being used to the destruction of the bees ? In case no such poisoning can be explained, or made to harmonize with the facts, then I should look to the nectar. Such immense acreage of lettuce and radish is rare. Can the bloom furnish poisonous nectar ? It is not to be believed that buckeye furnishes poisonous nectar. I have

always doubted if any nectar or honey is ever poisonous. I believe a close study will prove that the arsenites are the cause of this mortality. I have suggested that the honey in the worst colonies be analyzed. A detection of arsenic would explain all.

BEES IN THE MOUNTAINS.

It will be remembered that on my visit two years ago at Yosemite, I found no bees on the highest peaks, and great quantities of aphid honey-dew was going to waste. Now I am in the San Bernardino Mountains, and have just made the top of "Old Gray Back," 11,600 feet high, yet we saw bees on Yerba Santa and Potentilla, away up at the top. The yellow and brown lilies are beautiful. It is a glad pleasure to live in the mountains and to breathe the blessed air. Los Angeles Co., Calif., July 24.

No. 1.—How to Rear the Best Queen-Bees.

BY HENRY ALLEY.

I have read the articles of Dr. Gallup on queen-rearing with a good deal of interest. In the main the Doctor is about right.

I do believe that fully 90 percent of all the queens reared are as worthless as so many house-flies. Such queens are not reared by Nature's plans; in fact, the means used by many queen-breeders are just the opposite to those ways suggested by Nature and used by the bees themselves. Did you ever know bees to use sticks to form cell-cups first? Do bees ever go into the chamber above the brood-nest to build queen-cells unless about to supersede an old queen, or to prepare to swarm? Now, I have experimented a good deal in trying to get bees to rear queens in a hive above the main brood-nest. When the honey-flow is at its height good queens can be reared by the above method; but that part of the queen-rearing season is very short in many parts of the United States; particularly was it so this season, and if queens are to be reared they must be reared, so to speak, out of season.

Now, what are the conditions under which bees usually rear queens? Natural swarming, superseding an old queen, and when a queen is killed by accident. Of course this last condition comes more properly under a forced condition. Nearly all queens are reared under a forced condition, but bees even then comply with natural laws in producing another queen, or others. What do the bees do under these last conditions? Do they loaf about the hive, waiting until some one has furnished them artificial cell-cups? By no means; they just select an egg, or several eggs, in some convenient place, and at once commence to construct a cell-cup; in due time a lot of fine queens are reared and appear. As a rule, a queen-bee so reared is in any way the equal, and often the superior, of any queens reared under the swarming impulse. I say superior. And why are such queens superior? Now, this question brings me to a point I wish to dwell upon:

I have always claimed, and still claim, that I can rear better queens by the forced method than can be produced under the swarming impulse. I have the queens in my apiary to-day to prove this assertion. And, by the way, let me say here, that I am using an entirely new method for rearing queens. Although good queens can be reared by methods I have given, I can rear much better queens by the method now being used in my apiary.

I have found by actual experiments that a colony of bees will not rear good queens while there is a fertile queen present. I don't want any one to tell me it can be done, for I assert that it can not be done by any person. 'Tis contrary to Nature's laws. Even at swarming-time the bees do not rear as good queens as they will under queenless conditions, and this is why I claim that I can beat Nature in the way of rearing queens. I have thought that queens from cells made at swarming-time were superior to any I could produce by the forced method. They are not, and I do not now save such cells.

As queens are now reared they are short-lived and unprolific. *All* queens reared in hives while a fertile queen is present are short-lived. The bees appear to understand, when they are given cell-cups over their brood-nest, that they are not in want of another queen. But this is not the case with queenless bees. Bees in a queenless condition feel the need of a queen, and they will bend all their energies to produce one or more. Does the reader see the point?

Again, queens reared while a fertile queen is present are not nearly as large as those reared by queenless bees. I can show larger and better-developed queens than any ever reared under the swarming influence. Come and see them.

Now, let any one come forward and dispute the statements here made. I stand ready to back them up. One may "beat around the bush" forever in trying to prove that the artificial methods employed now will produce first-class queens, but the fact remains, all the same, that it can not be done.

There is quite a difference between artificial and forced methods for rearing queens. In the artificial method it is, "Do it as you please;" in the forced plan it is a case of, "We must have a queen or the colony is destroyed." Isn't this so?

If I had time, and Editor York would allow me the space, I would show how man can undo Nature, not only in producing queen-bees, but in many other things. All the same, it is only Nature's ways under the direction of experiment and common sense.

Let this do for this time. Essex Co., Mass.

[Come on with your proofs and methods. "Editor York" will "allow" you all the space necessary to do the thing up in a proper manner.—EDITOR.]

Marketing—Taking Orders for Honey.

BY S. E. MILLER.

If you have never tried canvassing, allow me to give you a few instructions, not that I am perfect in the art, but my experience may be helpful to others. In the first place, dress yourself in respectable clothing. With some people you might have more success if dressed somewhat shabbily, as they will be the more likely to take you for a producer if you appear in that garb; but, on the whole, I consider it best to appear respectably dressed when appearing before strangers.

Take a small pail, say one-half gallon of honey. The pail should have a lid that is easily removed and replaced, and for this purpose I find nothing neater than the friction-top pails. The sample should be a fair average of what you intend to deliver when sold, and, it is needless to say, should be thick, well ripened, and perfectly clean. As to the color, I do not find any objection raised to amber or slightly dark-colored honey. However, we should sell only one kind of honey in a town, for the average person does not know that there is a great variety of honey from various sources, and should neighbors where you have sold two kinds happen to compare the two, they are quite likely to imagine that one of the other is not a pure article, or, more likely still, they will conclude quite frequently that you are a mixer, and that it is all impure. Should you be obliged to supply honey of a kind different from what you have sold in the place before, it will be best to explain to the pur-

chaser at the time you deliver it. I allude to this because many bee-keepers are likely situated like myself. Here I nearly always get two crops, one from clover blossoms and other sources, and later another from autumn flowers, the former being almost clear, and the later amber colored.

Now, having entered a town or village, if you are acquainted with any of good standing and influence, try to secure their orders first, which is practically a recommendation. Having done this, proceed to canvass the town from house to house. Step up to the door in a business-like manner, and ring the bell or knock. When your call is answered, take off your hat and say, "Good morning, Madam" (Miss or Sir, as the case may be). "My name is Smith. I am a bee-keeper. I live over at Smithton. I am in town to-day taking orders for honey. Do you use honey in the house? I should be pleased to show you a sample of what I have."

At about this point they are likely to reply that they hardly ever use honey, or they always buy their honey from the country, and the reply will likely be accompanied by a suspicious look that indicates that they think you are offering a mixture that is put up in some city. In fact, some people will tell you as much. Do not be discouraged, however, but come at them like this:

"Madam, I am a bee-keeper, and this honey is gathered by my own bees. I am willing to stake my reputation on every pound of it. I suppose you know Dr. Jones?"

"I am well acquainted with him."

"He has known me for years, and will tell you that I would not offer you a spurious article. I have just taken his order for a gallon. Here it is" (showing your order book). "Here is Mr. Brown, also. I suppose you are acquainted with him. I have his order for one-half gallon. Would you kindly bring me a spoon and a saucer? I shall be pleased to leave you a small sample, even though you do not purchase, and it shall not cost you a cent."

At this request the spoon and saucer will generally be promptly produced. Remove the cover from the pail, dip the spoon in and give it a twist, draw it out and lay it in the saucer, and say, "There is as fine honey as was ever gathered by any bees."

If they bring a tablespoon, and your honey is as thick as it should be, this will be a good taste for a small family at the next meal. You can well afford to give a liberal sample, for a customer once gained, if properly treated, is quite likely to remain permanent.

About this time the one addressed will probably say to another member of the family, or a lady who may be visiting, "Well, Jane, I believe this is genuine honey; taste it once. Isn't it nice?" And addressing you, will say, "How do you sell it?"

By this time you should have your book and pencil in hand, and after quoting the price, say, "How much can you use? I put it up in quarts, half-gallons and gallons. Can you use a gallon?" Try to sell all you can, but if a party decides to take only a quart, do not annoy her by insisting on taking more, but say, "Thank you. I will deliver the honey in two or three days, if nothing happens to prevent." Step to the door, and as you turn to close it, say, "Would you please tell me who lives next door?" On being informed, say, "Thank you; good day."

There is some advantage in knowing the name of the person you are calling on, and, therefore, it is well to inquire as you go along. Call at every house where any one lives, unless you have good reasons for believing that there is no prospect of making a sale. Do not judge the occupants of a house from the outside appearances of the house, for though it looks dilapidated, there may be within it good people who have good money with which to buy your honey. Canvass the town street by street, or as most convenient.

Do not plod along on the street as if you were lost, but step in a business-like manner, and when you approach a house, step up as if you were going there to sell honey, and intended doing so. Talk business. Talk honey to all with whom you have occasion to converse. If you happen to meet some one who keeps bees, and he plies you with questions, answer him kindly, explain to him what a honey-extractor is, and how it works; how extracted honey is produced. Do not appear overly wise, but let him understand that you are posted and up-to-date in the production of honey. More than likely he will talk to others about you, and tell them that you know a whole lot about bees and the production of honey.

Deliver the honey on or as near the day you have named, and you will find that most of your customers have the money waiting, and quite likely you will find a few extra orders waiting for you.

I have not named all of the obstacles that you will meet with, but all can be overcome if you are determined and energetic. Do not fail to be polite and gentlemanly in address and action.—Progressive Bee-Keeper.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Introducing a Queen to a Colony with Paralysis.

Would it be safe to introduce a new queen to a colony of bees that is troubled with paralysis? WASHINGTON.

ANSWER.—Yes. Indeed, one of the cures confidently put forward every now and then is giving a new queen to the diseased colony. The trouble is that when a new queen is given and the disease disappears, you can not be certain that the disease would not have disappeared if there had been no change of queen.

Moving Bees—Danzenbaker Hive.

I began 3 years ago by purchasing 6 Danzenbaker hives; then I bought a colony of bees in an American hive and transferred them to a Danzenbaker hive, and they did not do very well the first year, but last year I got a swarm and about 20 plain sections filled from them and from another colony which I found that was queenless. I sold the honey for 15 cents a pound in cartons.

I have been cutting out the queen-cells this year, but one colony swarmed, nevertheless. I purchased two colonies from a neighbor 2½ miles from my home, so I have all my new hives filled with good, strong colonies, and have about 150 nicely-filled sections, in spite of this poor year, as there has been so much rain.

I am 25 years of age, and to say I enjoy handling bees does not express it. I wish to increase my apiary as fast as I can, and as my knowledge will allow.

1. Could I not move home the 2 colonies I purchased, 2½ miles, by tacking a screen over the entrance at this time of the year?

2. Is the Danzenbaker hive as good as the dovetailed with Hoffman frames for comb honey?

3 Is the Danzenbaker hive good for extracted honey?

4. As I hope some time to produce both comb and extracted honey, and will have to purchase all my new hives, and of course want them all alike, what kind of hive would you advise me to buy? I like the Danzenbaker brood-nest, as the bees fill the brood-frames straight with only starters;

and I have fine success wintering them, by placing them together in a low shed and packing with chaff.

5. Is the Danzenbaker comb-honey super as easy to handle and operate as the dovetailed super with slotted section-holders, with old-style sections having bee-ways.

6. Can the dovetailed super, with slotted section-holders for old-style sections, be used on a Danzenbaker brood-chamber? OHIO.

ANSWERS.—1. Yes, providing the entrance is large enough or the weather cool enough. It will be safer in the evening when it is cooler. If it is hot and the entrance is not more than six square inches, better have a screen to cover the top. For so short a distance two thicknesses of mosquito-netting might do. Sprinkling with water will help keep the bees cool.

2. That's a matter on which there are differences of opinion.

3. It can be used for one as well as the other, but is not very generally used for extracting.

4. Your safe plan may be to try a few of each side by side, so as to see which does best for you, and that will be better than the opinion of some one else.

5. That depends somewhat on what kind of supers you mean in the latter, and also upon the facility one has in handling the different kinds. I can handle the T super easier than either of them, while others would not have T supers.

6. With some little adaptation they can be used interchangeably.

Winter Repository—Sugar vs. Honey.

1. I have a shop 16 by 36, 7-foot studding, shingled on the outside; now I intend to partition it off to make it 16 by 16, board it up inside of the studdings, fill with sawdust, ceil it, and have a stove in the adjoining room, with a pipe running into the room described. Will that do to keep bees in during winter?

2. Which is the cheaper for cooking and general use, honey at 12½ cents per pound or sugar at 19 pounds for a dollar? WISCONSIN.

ANSWERS.—1. You will probably find it not so successful as an underground cellar, although some are successful with a house-apiary.

2. Sugar.

Comb Foundation in Sections.

How large a piece of foundation should be put in a section? WISCONSIN.

ANSWER.—I fill my sections, using all the foundation I can get in without having it sag. Some prefer to use small starters. "You pay your money and take your choice."

Colony with Laying Workers—Uniting Bees.

1. I have one colony of bees that is queenless. I have put frames with larvæ and eggs in three times, and they would not start a queen-cell. On July 11 I looked them over and found evidence of laying workers, so I took all of the frames and scattered them among three colonies, and took unsealed brood from those colonies that were the strongest, and put in place of the ones I took out. So on the 15th I looked them over and saw they still had not started a queen-cell. What is the reason they do not start a queen-cell? and what am I to do to save them?

2. When I exchanged the frames they fought like mad; smoking would not pacify them, and they killed each other frightfully. Do they always fight so when exchanging the frames with adhering bees? I am a beginner and do not understand much about these things yet. WASHINGTON.

ANSWERS.—1. A colony with laying workers is generally so perverse that the best thing is to break it up entirely, for it is cheaper to make a new colony than to doctor up a colony of laying workers, in which, as a rule, all the bees have lived so long as to be set in their ways and unwilling to do what the bee-keeper wants.

2. The fighting was probably made worse by the fact that little honey was coming in at the time, for the bees are likely to be good to each other when there is no scarcity. A plentiful sprinkling with thin sugar syrup might have been a help. As already said, the best thing is to break up the colony. If, however, you have a special affection for that colony, and want to preserve its identity, give it sealed brood from other colonies (not taking bees with the brood if they still keep up their ill temper), and after young bees hatch out from the brood you will find them ready to rear a queen from brood, or to accept a queen or cell offered them.

Queenless Colony—Quit Robbing.

I had just one colony queenless, and that for a great while, as it seemed. It was a strange case—I never had such a one. One day in June a new swarm issued, and everything seemed all right. The hives were about two rods apart. The second day both colonies commenced flying to and fro from early morning until late at night, in and out of their respective hives; that is, one to the other. That lasted over a week, and at last they gave it up. Now I see the old colony has lost its queen. I gave a queen to the new colony at that time, but the bees killed her. Does that happen often? MICHIGAN.

ANSWER.—The case is an unusual one, but such cases have been reported under the head of quiet robbing, the swarm quietly carrying off the stores of the mother colony. The swarm having their old queen would naturally kill any other queen given them.

Bees Eating Wired Comb Foundation.

My bees have done well. I run 12 colonies for extracted honey, of which I took 88 gallons. They did not do as well in the sections. I divided the strongest colonies and used wired frames with whole sheets of comb foundation; they ate the most of them off at the lower and second lower wire. What causes the bees to eat comb foundation along the wire? Above that they build out very nicely. PENNSYLVANIA.

ANSWER.—Perhaps the lower wire was too close to the bottom-bar. Bees are quite inclined to leave a passage-way between the comb and the bottom-bar, and if the wire was less than half an inch from the bottom-bar they would be likely to cut up to the wire. If the wire was not imbedded they would be more likely to gnaw away the foundation; and they will do more gnawing if no honey is coming in.

A Swarming and Queen Experience—Painting Hives.

1. As I hived a swarm of bees yesterday, when nearly all the workers were in the hive, the queen left them without going into the hive at all, and did not come back as long as I was watching. What could be the reason?

2. How can I find out whether there is a queen in the hive?

3. What would I better do if there is no queen in the hive?

4. How would it do to take a frame with a queen-cell and place it in the hive?

5. Would it do the bees any harm to paint the hives while they are working in them?

6. Is there any way by which I can get what bees are flying around in the air after a swarm is taken down and hived from a high tree? MINNESOTA.

ANSWERS.—1. It is possible it was a virgin queen taking her bridal trip.

2. You may be able to see the queen by looking over the frames. Not always, however. Give a frame of brood, some of the brood at least being quite young. If you find no queen-cells started on the brood a day or so later, you may count on the presence of a queen. But you hardly need

wait for this, for if you give them no brood the swarm will return to the mother colony if no queen is present. If the queen is a laying queen, you will find eggs laid by her.

3. If you give them a frame containing eggs and young brood, they may rear a young queen, or as soon as you find they are starting queen-cells, you may give them a mature cell or a laying queen.

4. That would work all right.

5. It would be all right except the danger of having the bees daubed with the paint at the entrance. With plenty of drier in the paint, at least in the paint used in the entrance, there ought to be no trouble.

6. Unless they should have an extra queen with them, there is no need to pay any attention to them. What bees do not join the swarm will return to the old hive. If they have a queen, you must capture them the same as a separate swarm, and then unite them with the rest of the swarm.

The Buffalo Convention Report is issued in pamphlet form, size 6x8½ inches, 80 pages and cover. Besides a full report of the proceedings of the 32d convention of the National Bee-Keepers' Association, held in Buffalo, N. Y., Sept. 10, 11 and 12, 1901, it contains fine half-tone portraits of all the officers and directors of the Association; also the Constitution, a list of the membership up to the end of 1901, and the two latest bee-songs—"The Hum of the Bees in the Apple-Tree Bloom" and "Buckwheat Cakes and Honey." We believe it is the finest ever gotten out for the Association. Of course, all members of the Association receive a copy free, but there are thousands of our readers who are not yet members, but who should have this valuable Report. Better send for a copy, if you have not yet received one. Price, postpaid, 25 cents, or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal. Better order soon, before all are gone.

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To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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☞If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

GENERAL ITEMS

Bees Did Well, Considering.

Last spring I bought 19 colonies of bees from a neigbor in box-hives, at $4.00 per colony. One was robbed, but the rest have done well, considering the weather. They have increased to 40 colonies. I have taken off 263 pounds of comb honey already.

V. A. HANSEN.

Polk Co., Wis., July 21.

At Least One Good Colony.

I took off 84 sections of white honey from one hive the other day, and every section was completed fancy comb; but in taking out I broke five sections by their having burr-combs. Every section on the hive was completed; I do not know how many they would have stored if they had been properly taken care of.

I have no other colony in the 20 that is storing white honey, and no other one storing half as much, and not one doing such a nice, clean job.

We had no basswood honey, and I did not think they were crowded for room.

This is my fourth year, and I have never failed to get some honey, thanks to the American Bee Journal.

LEWIS LAMKIN.

Woodbury Co., Iowa, July 31.

Fastening Brood Foundation.

Seeing the letter that A. M. Hoover wrote about fastening foundation in brood-frames, on page 487, I thought I would give my way. When I get the top-bar sawed out I set the saw to cut just so deep, so that it will cut out one-fourth of the top-bar; that is to say, cut two ways, one from the bottom and one from the side; that takes out a piece (say one-quarter) of the top-bar from the underside. Save this piece. Now, when the frame is nailed together lay it on the work-bench (or any place that is strong enough to nail on), and cut a board that will go inside of the frame, and just one-half as thick as the top-bar. Lay the foundation on

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this board and on the top-bar, where the piece is sawed out, take the piece that is sawed out and nail it back just as it was before it was sawed. The foundation is straight and firm, and can not drop out. This is the kind of frame I make and use.

Bees have done nothing in storing honey in supers yet—too much rain; it rained 26 days in June. How is that for rainy weather? D. COOLEY.

Van Buren Co., Mich., July 26.

Blue Vervain.

I enclose a flower and some leaves, and would like to have it named. It grows very extensively here in pastures, and is a great nectar-yielder.

A. C. BUTLER.

Genesee Co., Mich.

The plant is the blue vervain, Verbena hastata, and is, as you say, an excellent honey-plant. It is very widely distributed over the Northern States, and is of vast service to bee-keepers. (See Bee-Keepers' Guide, page 444, 17th edition.)—C. L. WALTON.

Short Honey Crop.

Our honey crop has been short, and prices low this year. The season was very wet in the early spring, and was followed by very dry weather.

Our bees came out booming this spring, but stored only 21 barrels of honey so far, and the prospects are very poor for getting any more. I had 83 colonies, and increased to 93.

B. F. BATEMAN.

Liberty Co., Fla., July 30.

Poor Season Until July 25th.

I have increased from 19 colonies to 42 this year, by natural swarming, and will have a few more; still, the season was very poor here until about July 25. White clover is just in full bloom, and the bees have been doing very good work for the last few days. Before the 25th of this month it rained on an average of four days each week, but my bees are very industrious, and some of them would go out in spite of the rain.

F. E. CASTLE.

Oneida Co., N. Y., July 30.

Quinine Honey—A Bee-Hat.

I have 18 colonies of Italian bees; they have filled, up-to-date, about 300 sections and 50 Langstroth frames with honey. About this time of year a weed that resembles "dog-fennel," except the bloom is yellow instead of white, comes into bloom, and if the bees work on it, which they do in dry weather, it makes honey as bitter as quinine, and spoils all the honey in unfinished sections or frames. It grows along streets and highways and on vacant city lots, and is a great drawback in the production or good honey.

I will give you my way of making a good bee-hat:

Take a strip of wire-cloth about 6 inches wide, and long enough to go around the head loosely, preferably having a selvedge running lengthwise on one edge. Sew the two ends together, and sow the raw edge to an old straw hat that will not leak bees: and sew to the bottom edge (the selvedge) a

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piece of cheese-cloth to make a kind of curtain at the bottom—and there you are. The two ends must be joined at the back, so that when you put the hat on, the place where these edges join will come at the back of the head. This makes a good protection, and a cool and comfortable veil that does not catch on to every limb or brush. I have worn one for three years, and would not swap it for the finest silk one. G. W. FAGAN.

Arkansas Co., Ark., July 7.

A Swarming Time.

I never saw bees swarm like my bees this year. I had the new swarm on the old stand, yet the old colonies would swarm the same. Some three or four weeks later each of the new colonies swarmed. I did not have hives to put them in, so I tried everything I could hear of, but of no avail. I had the best results in caging the queen, and keeping the queen-cells cut out. I also had trouble with queens laying in the super. I think my queens are too prolific, or it may be too warm. They surely have plenty of room and ventilation—more than they ever had.

JONAS WOLF.

Howell Co., Mo., July 14.

Experience of a Minnesota Bee-Keeper.

I have been keeping bees for the last seven years. Before I took the American Bee Journal I was not much of a bee-keeper; then I commenced to learn some things. I have 102 colonies, and they are doing very well. You will think it is hard to keep bees so far north, but we do not get 300 to 400 pounds of honey as some of the Southern boys claim, but we can get some good honey this far north. Four years ago I got 1920 pounds of fine comb honey from 17 colonies, spring count, and I had 50 colonies in the fall. Last year I had 65 pounds of comb honey per colony. One colony gave me 149 pounds of extracted honey.

I was the first one to have bees in this place, and now there is one bee-keeper who has 200 colonies in this county.

I sold all my honey right here—2200 pounds to the same house last year at 14 cents a pound.

I wish I could meet some good old bee-keeper, so we could have a good bee-talk, and have him teach me some things about bees, as all I know I got out of books and from the American Bee Journal.

I have to use my left hand in all my work, as I lost my right hand five years ago. OLIVER CARSON.

Red Lake Co., Minn., July 10.

A Wet Time in Iowa.

As has probably been noticed in the newspapers, we are having a wet season here in Iowa, as well as in the adjoining States.

Bees wintered well here, and what clover was left from last year's drouth came through so that things looked fairly promising for honey at the winter's end.

But the spring was dry and cool up to the last of May, and windy. Well, windy hardly expresses the idea—it simply kept things on the move, espe-

—ITALIAN—

BEES AND QUEENS!

We have a strain of bees bred specially for honey-gathering and longevity. We feel confident of giving satisfaction.

PRICES:
for the remainder of this season:

1 Untested Queen .....$ .60
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For this gathering in San Francisco in August next excursion tickets will be sold via the Chicago, Milwaukee & St. Paul Railway from Chicago to San Francisco or Los Angeles for $50 for the round trip with final return limit Sept. 30.

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32A2t

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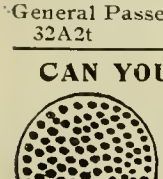

If you can, send your name and address for a sample copy of the best farm paper published and particulars of our great dot counting contest. Every person who counts correctly gets a prize, while those who count best get cash prizes from $1 to $125 and a $700 piano. We are giving away **$2,500 in Prizes.** Send name on Postal to-day for free particulars. Address,

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Please mention Bee Journal when writing.

Farm crops are at a critical stage, and unless it "fairs off" very soon small grain is doomed.

E. S. MILES.

Crawford Co., Iowa, July 8.

Introducing Queens.

I had a colony of bees this summer which mocked all treatment that I knew or ever read or heard of. It would positively accept no queen or queen-cell, under no conditions, until it finally became drone-broody. I had given up all hope, and intended to unite it as soon as I had time, when one more chance, and, to me, a seemingly good one, occurred. A large swarm issued from the hive standing next to the queenless colony, and having, besides its old queen, a virgin with it. So I left the old queen with the swarm, but the virgin I introduced in the queenless drone-breeder as follows:

First, I took about a pint of bees from the swarm and started them to run into the queenless hive; then I let the queen run in with them, when I took two or three handfuls more and threw in after them. The bees were very cross on that day, for robbers bothered lots. I did not use one whiff of smoke, and did the job in the most reckless manner, because I was very busy and felt vexed because a swarm issued so late in the season, and then having a virgin queen with them, so I had to go after them and get them. To-day she is in nice shape.

I introduce a laying queen by simply taking the old queen from the comb she is on and putting the new one in her place, by letting her run out of a round wire-cage, holding the cage over the comb, and watching when she becomes perfectly quiet, then carefully remove the cage, and very, very carefully lower the comb down into the hive; and just as carefully, without

PAGE

DON'T IT TAKE

a pretty good fence to stand the trials the PAGE has successfully withstood for so many years?

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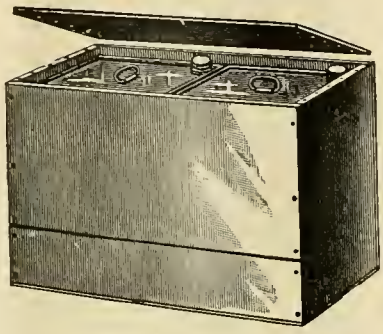
ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

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Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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CRATES OF TWO 60-lb. CANS, been used once, in good condition, in lots of 5 crates, 40c each; 10 or more, 35c. This lot is limited; order at once.

QUEENS! The Best Money Can Buy!

BUCKEYE STRAIN 3-BANDED are the genuine RED CLOVER WORKERS. MUTH'S STRAIN GOLDEN ITALIANS can not to be surpassed. Either of above, 75c each; 6 for $4.00. Selected tested, $1.50 each.

A trial will convince you. Send for our catalog of BEE-SUPPLIES.

THE FRED W. MUTH CO., Front & Walnut Sts., Cincinnati, Ohio.

Fancy Glassed Comb Honey

Any bee-keepers in New York or Pennsylvania producing either White Clover or Raspberry Fancy Comb Honey (in glassed sections), will find it to their interest to write to the undersigned at once.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

any jar, adjust the combs and close up the hive, and all was well.

A. C. F. BARTZ.

Chippewa Co., Wis., July 24.

Honey Season Not Encouraging.

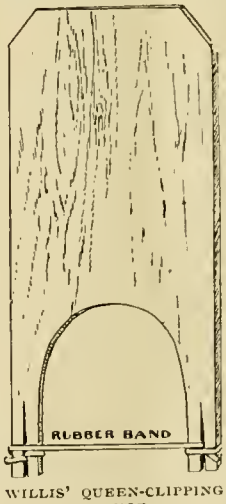
Young white clover is everywhere now. It looks as if we would have a fine flow from it next season. I expect an immense crop of apples and pears this year. I have the finest crop I have ever seen on the trees. I think we will have hardly any surplus honey here this season, but I will have quite a crop at another apiary. A. N. DRAPER.

Madison Co., Ill., July 28.

A Device for Holding a Queen While Being Clipped.

This has been sent to the editor of Gleanings in Bee-Culture, who says concerning it:

This I regard as an exceedingly simple and practical device. It consists of a piece of broken section cut in the shape of a fork, as shown. A small rubber band is stretched moderately across the two prongs, being secured at either end in the manner illustrated. Some care should be exercised in getting a rubber band light enough, and then drawing said band to such a point of tension that it will hold the queen down nicely on the comb. To determine whether that point is reached, try the device after it is made, on a few of the worker-bees. If you can succeed in holding any one of these down, then you can with reasonable safety try it on a queen.



WILLIS' QUEEN-CLIPPING DEVICE.

While she is standing still on a comb, receiving the attention of her admirers, clap it down across her back. She will wiggle and squirm; but if the rubber band is adjusted to the right point it will hold her firmly without doing any damage. Now, then, deliberately pick out one of the large wings, pass it between the points of the scissors and clip. Lift the little tool, and all is over.

Horn's Plan with Bee-Escapes.

Bee-escapes are now in use, or soon will be, and it is an appropriate time for me to tell my readers of a little item sent me some time ago by Mr. Henry E. Horn, of California. He says that he has obtained the best results by putting the escape in the center, and then have four strips of wood tacked to the top of the escape-board, each strip exteuding, diagonally, from the escape to the corner of the board. Then when the bees begin racing around the edge of the board, looking for an outlet, these strips lead the bees to the center where the escape is located.—An editorial in the Bee-Keepers' Review.

Editor Root in a Scrimmage.

The editor of Gleanings in Bee-Culture had a slight difference of opinion with his bees on the occasion of trying to put on some supers

in the evening, after a thunderstorm. Others may be reminded of like experiences that they have taken the precaution to keep quiet about. Here's the story in Mr. Root's own words:

With my usual caution after such a storm I blew smoke into the entrance of one hive, removed the cover, and was about to pull out a frame from the brood-nest. It was toward dusk or I should, perhaps, have noticed that a lot of bees were standing high up on their legs, nervously twisting this way and that, ready for an onslaught. At all events, the onslaught came. It being very warm, as before stated, I had nothing on but one thickness of clothing, and linen trousers at that—a fact that those bees were not slow to discover. Unfortunately, I had hung the smoker on one side of the hive, and that was the only smoker in the yard. I reached for the weapon. Oh, no! they had possession. I retreated a few paces, and waited for them to calm down. The minute I showed myself again, out they came like hot shot, up my sleeves, and wherever my thin clothing touched me they were sure to find the spot. I retreated again, and waited for them to "cool off." Again I showed myself, with the same result.

"Well, now," said I, "I have never been conquered by a colony yet. If I can get hold of that smoker I will see who is boss." But the minute I got anywhere near the hive to get my weapon, that moment they would rush out. I finally got behind a big apple-tree which was conveniently near, and with a long screw-driver I reached the point of it into the nozzle of the smoker, and quietly lifted it off the hive.

Didn't I work up a big smudge? and didn't I give 'em fits? I smoked them at the entrance, I smoked them at the top, I made them fairly howl for mercy, and then *I* was boss.

Say—I was rubbing stings out of my arms all night. I was stung so much I did not really know where I had been hit until an itchy spot would remind me there was, may be, a sting located thereon.

Honey in Oil-Cans.

The Rocky Mountain Bee Journal endorses the position of this journal after the following fashion:

We hope none of our readers will risk putting extracted honey in cans that have once been used for oil. It is well-nigh impossible to remove the taint and smell of the kerosene, and the honey will quickly absorb it, rendering it unfit for use. The Editor of the American Bee Journal recently received a consignment of honey in second-hand oil-cans, much to his disgust and loss. He comes down pretty hard on the thoughtless consignor in an editorial. None too hard, however, when one considers not only the financial loss, but the incalculable damage done to the extracted honey market by such worthless stuff reaching the consumer's table.

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st Send for circular.

JOHN M. DAVIS,
14A26t SPRING HILL, TENN.

BOYS WE WANT WORKERS
Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.
Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.
Very truly yours, JOHN THOEMING.

MONTHS	July and August.		
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00
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Untested	$ .75	$4.00	$ 7.00
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Select tested, $2.00. Breeders, $5.00 each.
2-frame Nucleus with Untested Queen, $2.25 each; 3-frame Nucleus with Untested Queen, $3.00 each; 6 for $2.75 each.

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For Sale—Black Queens, 25c each; 6 for $1.25; 10 for $2.00. **J. M. JENKINS,**
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"What Happened to Ted"

BY ISABELLE HORTON.

This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address,

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Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
Chicago, Ill.

Bees For Sale

On account of removal I will sell my 13 colonies of Bees, including a $5 00 Doolittle Queen, for the cost of hives and fixtures.
E. L. DRESSER, Divernon, Sangamon Co., Ill.
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A Golden Opportunity!

A few tested 5-banded stock, $1.50. Red Clover Queens balance season, 50 cents.
R. R. No. 6. J. F. MICHAEL, Winchester, Ind.
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ROOT'S GOODS AT ROOT'S PRICES.
Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.
WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 19.—Not any comb honey of the new crop yet on the market, but advices of this week would indicate that some sections of the country are now prepared to ship as soon as any demand appears, and beginning with August there has in past seasons been more or less of a market, and it is looked for to begin this year on time. This for several reasons, one being that we are going to have some choice white clover and basswood to offer, which has not been over plentiful during the past three or four seasons. Prices are nominally the same as during the past 90 days. Beeswax sells at 30c.
R. A. BURNETT & CO.

KANSAS CITY, Aug. 2—Receipts of comb honey increasing; fairly good demand. New fancy white, 14@15c; No. 1, 13@14c; amber, 12@13c. Extracted, white, 6c; amber, 5@5½c. Beeswax, 22@25c. C. C. CLEMONS & CO.

CINCINNATI, July 26.—Considerable stock of 1901 crop fancy comb on the market and sells at 14@15c; there is a call for new comb honey, as yet none on the market; this market demands fancy comb; all other grades discourages trade. Extracted is in fair demand at 5½@6c for amber and 7@8c for clover. Beeswax, 28@30c. THE FRED W. MUTH CO.

ALBANY, N. Y., Aug. 1.—We are having some calls for new comb honey, but no receipts to speak of yet. No price established yet, but think can get 15@16c for good white comb. Extracted, demand light.
The crop of honey near here is light, owing to so many colonies of bees having been destroyed. H. R. WRIGHT.

NEW YORK, July 7.—There is some fair demand for comb honey at 14c for strictly fancy white; 12@13c for No. 1, and 10@11c for amber. Extracted quiet at unchanging prices. Beeswax dull and declining at 29c.
HILDRETH & SEGELKEN.

CINCINNATI, Aug. 2.—Some small lots of new comb honey have been coming in, but as the weather is so warm there is very little demand. That sold to stores brought 15c for fancy.
The market for extracted was more lively, brings as follows: Amber, 5@5½c; alfalfa water white, 6@6½c; and white clover, 7@7½c. Beeswax, 30c cash. C. H. W. WEBER.

SAN FRANCISCO, July 23.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.
There are moderate quantities arriving, with asking figures in the main above the views of wholesale operators. Business doing at present in this center is principally of a small jobbing or retail character, and in this way transfers are being made at an advance on any figures which would be warranted as quotations based on values for round lots.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.
21Atf Mention the American Bee Journal.

WE can place a few cars of COMB AND EXTRACTED HONEY. Will be glad to correspond with parties having some to offer. We also solicit local consignments.
C. C. CLEMONS & CO.,
29A9t 306 Grand Ave., KANSAS CITY, MO.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no drip cases.
THE FRED W. MUTH CO.
32Atf Front and Walnut, CINCINNATI, OHIO.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

WANTED WHITE CLOVER COMB HONEY—near New York City. Give grade and price wanted. W. H. YENNEY,
32A3t Glassboro, N. J.
Please mention Bee Journal when writing

BEE-KEEPERS,
Save Money by Buying
Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF
THE W. T. FALCONER MFG. CO.,
Jamestown, N. Y.
☞ Our goods are guaranteed of superior quality in every way.
Send for our large illustrated catalog, and copy of
THE AMERICAN BEE-KEEPER,
a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)
☞ W. M. GERRISH, E Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.
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BINGHAM'S PATENT Smokers
24 years the best. Send for Circular.
25Atf T. F. BINGHAM, Farwell, Mich.

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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.
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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.
WOOL MARKETS AND SHEEP, CHICAGO, ILL.

$300,000,000.00 A YEAR
and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.
Please mention Bee Journal when writing

100 Lbs. of Comb Honey
PER COLONY
is the record of our bees thus far this season. We sell Queens at the following prices: Untested, 75 cents each: ½ doz., $4.00. Tested, $1.00; ½ doz., $5.00. All Queens will be sent by return mail.
LEININGER BROS.,
31Dtf FT. JENNINGS, OHIO.
Please mention Bee Journal when writing

1902—Bee-Keepers' Supplies!
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich
Please mention Bee Journal when writing

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Please mention Bee Journal when writing Advertisers.

25th Year Dadant's Foundation 25th Year

We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

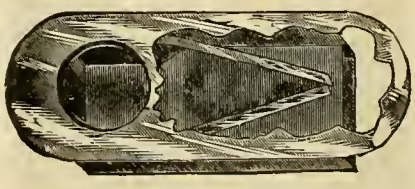
Bee-Keepers' Supplies OF ALL KINDS *****

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

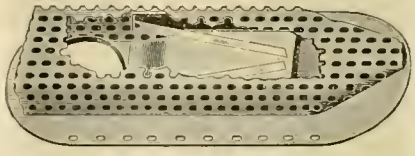
BEESWAX wanted at all times.....
DADANT & SON,
Hamilton, Hancock Co., Ill.

The Porter Spring Escape
is a great labor-saver. Don't lift the heavy super, shake and brush the bees, cruelly smoke and cause uncapping, stings and robbing.



Use it, and make work a pleasure instead of a dread. Try it, and you won't be without it again. Price, 25 cents.

—THE—
Porter Honey-House Escape
clears the extracting-house of bees. The worst robber cannot return. One over each window and door will save you great



annoyance. If you tier up the supers to rid of bees this is the BEST of Escapes. Try it and you will wonder how you got along without it so long! Price, 25 cents. Address,

THE A. I. ROOT CO., Medina, Ohio.

Also for sale by all our branch houses and agencies, and all dealers in bee-keepers' supplies.

GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL.,
are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO.
Send to them for their free Catalog.

National Bee-Keepers' Convention at Denver, Sept. 3-5, '02

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., AUG. 21, 1902.

FORTY-SECOND YEAR
No. 34

WEEKLY

D. W. WORKING,
Secretary of the Colorado Bee-Keepers' Association.—See page 532.

A STANDARD-BRED

QUEEN-BEE FREE

To Our Regular Paid-in-Advance Subscribers.

We have arranged with several of the best queen-breeders to supply us with **The Very Best Untested Italian Queens** that they can possibly rear—well worth $1.00 each. We want every one of our present regular subscribers to have at least one of these Queens. And we propose to make it easy for you to get one or more of them.

In the first place, you must be a regular subscriber to the American Bee Journal, and your own subscription **must be paid in advance.** If it is not already paid up, you can send in the necessary amount to make it so when you order one of these fine Queens.

A Queen Free for Sending One New Subscriber

Send us $1.00 and the name and address of one **NEW** reader for the American Bee Journal, and we will mail you one of the Queens free as a premium.

Now, go out among your bee-keeping neighbors and friends and invite them to subscribe for the old American Bee Journal. If you want some to show as samples, we will mail you, for the asking, as many copies of the American Bee Journal as you can use.

Should there be no other bee-keepers near you, and you desire one of these fine Queens any way, send us $1.50 and we will credit your subscription for one year and also mail you a Queen. Of course, it is understood that the amount sent will pay your subscription at least one year in advance of the present time. So, if your subscription is in arrears, be sure to send enough more than the $1.50 to pay all that is past due.

As the supply of these splendid Queens is limited, we prefer to use all of them as premiums for getting new subscribers. But if any one wishes to purchase them aside from the Bee Journal subscription, the prices are as follows: One Queen, 75c.; 3 Queens, $2.10; 6 Queens for $4.00.

We expect to be able to fill orders by return mail, or almost as promptly as that, so there will be no great delay at any rate.

Now for the new subscribers that you will send us—and then the Queens that we will send you! Address,

GEORGE W. YORK & CO.,

144 & 146 Erie St., CHICAGO, ILL.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., AUG. 21, 1902. No. 34.

Editorial Comments.

Formalin for Foul Brood.—Editor Root is very skeptical about believing that formalin, or indeed any drug, may be successfully used in killing the *spores* of foul brood. But those Canadian professors say that beyond a doubt they *have* killed spores with formalin, and they seem to think it not so very difficult. Let us hope that Editor Root, rather than our more northern friends, is mistaken.

European vs. American Conventions.—Mr. C. P. Dadant has an article on another page contrasting the bee-keepers' conventions of continental Europe with those of America. No other man is more competent to write on this subject, for he has attended conventions on both sides of the Atlantic.

Undoubtedly the fact of greater distances in this country militates against great conventions here. The only way we can hope to gather a large crowd is to hold our meetings when low railroad rates are in force for some other and more important occasion. We have had the largest and best bee-keepers' conventions when taking advantage of the railroad rates granted on account of the meetings of the Grand Army of the Republic. This year the Denver convention will likely be well attended for the same reason—that of low rates.

And, then, another matter that may induce bee-keepers to "go again" may be that of having a jolly time rather than so much "shop talk." A convention should be as far removed as possible from being like sitting down and reading a bee-paper. This latter can be done at home, and at far less expense. The meeting and greeting of old-time as well as new-time apiarian friends should be one of the greatest incentives to attending any convention, and especially the meeting of the National.

If we may judge from the published program of the Denver convention, it will be a leader in the way of providing a variety of entertainment for those fortunate enough to be there. We hope that aside from the indoor sessions it will indeed be the best meeting ever held by the bee-keepers of this country.

We Americans have much to learn from our European brethren in many ways, and in no way more than in the convention line. Why not begin at Denver to strike out on this new line for our bee-keepers, and have such a good time that not only will all who attend this year be sure to attend next year (if alive and well), but cause those who remain at home this year to feel that they have missed about five years out of their lives by not being at the Denver convention? If Colorado bee-keepers can't succeed in doing that, they're not nearly up to the grade of their fine alfalfa honey. We are just "Aikin" to begin "Working" up such a glorious convention here in Chicago in the fall as will simply "Harris" those Denverites into "Rauchfussing" around and putting up "the real thing" in the convention line in September.

However, we are willing that Denver shall be first. But look out for Chicago later on!

Foundation and Foul Brood.—H. W. Brice, in the Bee-Keepers' Record, insists that it is not safe to use for foundation wax from foul-broody combs, while all authorities in this country seem to agree that it is safe. Which is right?

Legislation Against Foul Brood.—Although no new thought upon the subject may be given, its great importance makes it advisable to keep it warm so long as the States that have proper laws to protect the interests of bee-keepers are so very few in number. It seems a little strange that so little should be said or done by bee-keepers in States without any legislation. Now and then a solitary voice is heard, then all is again silent.

Possibly the matter stands a little in this shape: Those bee-keepers who are especially suffering from foul brood because of the lack of legislation are somewhat inclined to be discouraged, and those who are yet safe from the scourge feel no personal need of any legislation. An earnest plea to this latter class may not be amiss.

Let us suppose that you are living in a part of the State where there is no disease near you. Why should you trouble yourself about legislation? But those who are in the most distant part of the State need your help to secure legislation, and you ought not to be so selfish that you will stand idly by and see them suffer without making any effort to help.

Neither are you so safe, perhaps, as you may think. The disease may be brought into your neighborhood at any time, and it will be a great deal better for you if there is legislation in advance of the appearance of the disease. With proper laws, if you learn that your neighbor has a diseased colony, you may take steps to secure the stamping out of the disease before any colony of your own is affected; whereas, if there is no law, you are utterly helpless against having the disease spread through all the colonies surrounding you, if indeed you can do anything to prevent its appearance in your own apiary.

The fact is, that every State that secures proper laws against the disease makes you that much safer, and it is of interest to the fraternity at large that every bee-keeper in the land should do his part toward securing legislation in his own State. The entire wiping out of the disease in California will make it safer for Maine, and *vice versa*.

In the article of Hon. J. M. Hambaugh, on page 406—which article may be worth a re-perusal—he takes the ground that all hives but those with movable combs should be outlawed. At first it might seem that such a thing would be arbitrary and unjust, and the box-hive man might say, "Isn't this a free country? And haven't I a right to

keep my own bees in any kind of a hive I please?" On the same principle one might say, "Haven't I a right to carry a pistol in my pocket if it's my own pistol and my own pocket? Haven't I a right to sell poison or whiskey to any one I please?" No, you haven't the right to do these and many other things that would be a menace to the public safety or a detriment to the public good. If you have a colony in a box-hive, and the disease starts in it, you can not determine whether there is any disease until the scourge has advanced to a severe stage. In other words, the inspector can not tell whether there is any disease present or not. You have no right so to jeopardize others.

There should be earnest action everywhere; organization and combined effort everywhere. It ought to be made a difficult thing for an ignorant, careless, or pig-headed bee-keeper to harbor the disease; and it ought to be made an easy thing for others to rid him of the disease, will he nill he. Shall there be such combined action everywhere, or shall it be confined to a few States?

The Weekly Budget.

MR. THADDEUS SMITH, of Pelee Island, Ont., Canada, died on June 11, 1902. He wrote several articles for the American Bee Journal the past year.

DR. C. C. MILLER stopped off in Chicago over night on his way home from Winona Lake Assembly, in Indiana, where he gave a talk on "The Story of the Bees, or Secrets of the Hive." His own bees (some 200 colonies) are not telling a very good story this year, on account of the unfavorable season. He fears having to feed them for winter stores.

SPECIAL RATES TO DENVER.—Pres. Hutchinson sends us the following for publication:

Special rates on the railroads were expected all over the United States when the National Letter Carriers' Association held their annual convention in Denver, but I can not learn, by the most persistent correspondence, that any rate has been made for the far West. If there is any one going from any part of the country, and there are no reduced rates given from his part of the country, let him write to me, and if any rates are eventually secured, I will at once write to him. W. Z. HUTCHINSON.

LATER.—I have just received notice from the Santa Fe Railroad that they will sell tickets from California to Denver and return at the rate of $55.00, for accredited delegates of the National convention of bee-keepers. Date of sale is Aug. 28, and final limit 60 days. W. Z. H.
Flint, Mich.

MR. D. W. WORKING, whose phiz decorates the front page of this issue of the American Bee Journal, sent the following sketch with the photograph, written "By Himself:"

I was born in Belle Plaine Township, Scott Co., Minn., if I may trust the records. In my short career, I have lived in three Minnesota counties, one county in Missouri, five in Kansas, one in Nebraska, and three in Colorado. My first experience with honey-bees was in Minnesota, where my grandfather kept a few colonies that knew how to sting as well as to make honey. I was stung. My latest experience with the little honey-makers has been in Colorado. My own bees sting and make honey, too. They have done neither this year; but it isn't my fault.

I have written this sketch at the earnest and frequently repeated request of Editor York, who has also asked me for a photograph of myself. I have had the picture made especially for use in connection with the coming convention of the National Bee-Keepers' Association; it flatters me, though Brother York's engraving may not. I confess that I don't like to write this stuff. It is all true enough, no doubt; but somehow my modesty and my vanity both protest that some one else ought to have written me up. Probably no honest man could be persuaded to do it.

* * * *

P. S.—If you are coming to the big Denver convention, I wish you would let me know at once. I want to tell our daily papers about the crowds of bee-keepers who are going to be with us on that occasion. We are to have a real poet at our banquet. I don't mean York, or Secor, or Myself.
Box 432, Denver, Colo. D. W. WORKING.

A BEE-KEEPERS' PICNIC.—Mr. F. Greiner, of Ontario Co., N. Y., wrote us Aug. 7:

"We had a bee-keepers' picnic Aug. 1, along the shores of Canandaigua Lake. We had a good time. The most of our bee-keepers have harvested a fair honey crop."

So far as we know, this is the only bee-keepers' picnic in the United States. It's a good idea. The only trouble is, that many who would like to join in an affair of that kind live too far away.

A DELUGE OF ORDERS.—It seems the American Bee Journal is a pretty good advertising medium, if we may judge by the following:

DEAR BRO. YORK:—Please take my advertisement out of the American Bee Journal. It has caused such a "deluge" of orders that I am now three weeks behind orders, instead of being able to send by "return mail," as that "little, lying old man" is telling your readers.

If this is any criterion to go by, the American Bee Journal is the best advertising medium out.
Hastily, G. M. DOOLITTLE.

And yet there are a lot of breeders of good queens who do not have their advertisements in the American Bee Journal. Some seem to think that our advertising rates are too high. But when returns are compared with the amount invested, we think there will be no cause to complain, that is, provided the prices of queens or goods offered are reasonable, and that all comes up to the claims made by the advertiser.

"IMPORTED" A "SUPERIOR QUEEN."—A Wisconsin ex-bachelor, who, of course, is no longer "queenless," sends us the following:

I would say to "Iowa," who asks, "Why are there so many bachelor bee-keepers?" that I was one for a good many years, and in the summer season was too busy with bees and bee-queens to think of much else, but finally devoted one winter (while my bees were in the cellar) to a more worthy enterprise, and the next spring I was no longer a bachelor, for I had found and imported a "queen" of "superior stock." B. T. D.

[Now, that's good. Only don't let any lonesome bachelor get discouraged if he should not be able to import his "queen." The home-bred ones are just as likely to be of the "superior stock" as the best imported. We have been rather observing "along this line," and have also found, from personal experience as well, that, should the prospective home queen not be of such tender years, it is no perceptible detriment, so far as we have been able to determine. (Of course, it wouldn't do for a certain "queen" to see this copy of the American Bee Journal, or a certain "old drone" might wish he hadn't buzzed so loud.)—ED.]

DR. ANGELO DUBINI, one of the most prominent bee-keepers of all Europe, who lived in Italy, passed away recently, at the age of 89, the result of a fall in his house. Editor Bertrand says of him:

He had been for about 38 years attached to the Grand Hospital of Milan; and after a brilliant and useful medical career, in the course of which he published several impor-

tant works which established his reputation, he retired at the age of 65 years. But he had too much activity of spirit to remain idle. An amateur experimenter with bees, he devoted his robust old age to the advancement of apiculture.

He became, in 1868, one of the founders of L'Apicoltore, and worked for that journal assiduously till his death. Understanding several languages, he kept abreast with apicultural literature, and published monthly, under the name of Spigolature Apistiche, an analytical review of foreign journals, which was greatly appreciated, as were all the rest of his contributions to the journal. He left a very complete treatise, "The Bee and Its Management," which has gone through two editions.

The loss of this gifted man and untiring worker, one of vast erudition which he devoted to the service of others, will be keenly felt in Italy, and by all outside of Italy, who, like ourselves, have had the privilege of knowing personally the man, or who have been able to appreciate his works.

Contributed Articles.

Bee-Keepers' Associations and Conventions.

BY C. P. DADANT.

I have often wondered at the greater success of the bee-keepers' associations in Europe than in this country, and especially at the greater attendance at conventions, whether local or national, and I have tried to explain the thing in several ways. We feel ahead of the Old World bee-keepers in practice and pecuniary success in bee-culture, but it is only accidentally that we can have a bee-keepers' meeting that is well attended; and whether our associations are local or represent entire States, we can readily see that it is only exceptional that the bee-keeper belongs to them or attends them. The greater distances, also the higher railroad fares, in this part of the world, would partly explain the lack of attendance; but money is more plentiful here, and our citizens spend a dollar as easily as a European spends a franc. So this is not the whole explanation.

I have been reading, lately, some of the programs and reports of meetings, and it strikes me that there is a congeniality and unconventionality about *their* meetings which are absent from many of ours. It seems to me that we are too stiff, too matter-of-fact; we are too fond of parliamentary rules, essays, and addresses; we do not put enough free, neighborly intercourse into our meetings. We do too much bee-keeping and do not mix in enough pleasant social intercourse, which enables the members to get acquainted.

Let me read to you the program of the Societe Romande d'Apiculture, of Switzerland, which was to meet May 12 and 13, as I find it in the Revue Internationale:

Official meeting at 10 o'clock, a.m.

At 12:30, dinner at Hotel de l'Ange; price, 40 cents.

At 2:15, departure in carriages (20 cents) to visit the apiaries of Messrs. Sautter and Odier.

At 5:45, lunch at the apiary of LaRippe.

Return to Nyon in the evening, unconventional meeting.

Rooms at the Hotel de l'Ange, 30 cents; breakfast, 20 cents.

The 13th, at 7:15, if the weather is good, excursion to the Jura mountains. Upon the return, visit and lunch with Mr. Bertrand.

In the evening, adjournment.

Now for the report of the meeting of Feb. 17: It appears that this Romande Society is divided into sections, each section being expected to make regular reports of the condition of the bees, and in each section some bee-keepers are provided with scales at the expense of the Society and are expected to make monthly reports of the weights of hives, with meteorological observations, and all remarks that may be of interest to the apiarian public. At this meeting in February, one apiarist is reported as failing to make his reports regularly, and it is decided to take away his scale and give it to some one who will be more prompt. It appears also from the reports that the Romande Association is a member of the Federation of Agricultural Associations of Switzerland and that this latter national body allows the Romande a certain sum each year for experiments, etc., requiring a condensed annual report.

The statement of the treasurer shows that the Association is in debt, but that the receipts for 1901 have been 1656 francs. It appears also from the report that the annual membership fee is only one franc—20 cents.

We see, also, that the Association appoints a member each year to visit apiaries, give instructions or suggestions, and deliver lectures when desired.

All the foregoing, although showing that there is more social intercourse among the members of an European Association than in this country, also shows that more pains are taken to diffuse information in diffenent ways. But the important point that I wish to notice is the more steady condition and better attendance at these local meetings than is usually found in the United States. The Germans are, if anything, still more enthusiastic in their meetings, and their National Congresses are attended by hundreds upon hundreds of jovial and happy members.

If our apiarists will look back upon our experience in bee-keepers' associations in this country, they will see that we have been successful in proportion as we have made our meetings attractive, not only by some practical discussions in the meeting, but also by social and familiar intercourse between members, visits to apiaries, exhibitions, banquets, and, in fact, by such enjoyable performances as would make the absent member wish that he had been there, when he reads the report.

I know that some of my friends will say, as I have heard them say: "I do not care for all this visiting; what I want is bee-knowledge, and I want to put in ten solid hours each day, to get all the information I can." This is well and good if everybody thought as he does, but for ten who feel thus, there are hundreds who want a little pleasure mixed in with their attendance at a convention. Besides, some of you have probably experienced what I did. I have learned more, at conventions, from a private talk with an individual whom I had singled out of the mass, than I have learned from discussions where we often hear a man make a long talk about something that you and I learned perhaps long before he did.

In my opinion, Mr. Editor, the Chicago meeting last fall, which was so pleasant, derived as much of its popularity from the humble banquet in the evening, as from any and all of its discussions. Hancock Co., Ill.

No. 2.—How to Rear the Best Queen-Bees.

BY HENRY ALLEY.

(Continued from page 519).

I have looked over Dr. Gallup's article on page 470. They are good articles, interesting, and to the point. I want to take up a few points in one of Dr. Gallup's article. He says:

"When I first began the nucleus plan I reared them small, inferior, and, as Mr. Benedict said, as black as crows, but I jumped out of that boat long ago." I never reared queens by any nucleus plan, always using the strongest colonies in my apiary for that purpose. But I want to tell Dr. Gallup, and all others, that the best queens I ever saw were reared in a small box 5x5x6 inches, and on 4 small combs. Not only do I make the above assertion, but I now have a dozen queens in my apiary that were so reared. Now

these boxes have been used by me more than 30 years. I do not rear queens in them, but merely use them for fertilizing-hives. I have always found these small hives more convenient, and easy to manipulate, and superior in every way to full-size frames. "Well," some one says, "how came you with those fine queens if you didn't rear them in those little hives?"

When the young queens have filled their little combs with brood, they are sent out to a customer. In some cases I fail to introduce queens to them, or they are in some way lost, and the result is the bees rear several queens. Although none of these hives contains over one pint of bees, they never fail to rear the best queens that are produced by any method used for rearing queens. Now, the "proof of the pudding is in eating it," and I want to say here that I will mail Dr. Gallup, or any other man of his standing, several queens that were reared in these small boxes, and if these queens can be equalled by queens reared at swarming-time I am ready to "throw up the sponge," and drop this question. Conditions, and not circumstances, are what produce good queens.

Taking a hint from the above experience, I am now rearing all my queens by a method that has never appeared in print.

The poorest queens I ever saw were reared at swarming-time, and as Dr. Gallup says, "I jumped out of that boat long ago." I don't want any such queens. I can rear better ones. Why, a queen that was reared in the above way (nucleus) was kept in my apiary 4 years and 2 months, and she was the mother of more than 400,000 bees.

A few years ago, as many readers will remember, I had a hundred-dollar queen. Thousands of the readers of this Journal had received queens from this particular queen, and nearly every customer sent me a testimonial of the queens received.

This hundred-dollar queen was a come-by-chance, and reared in one of the little hives described above. I now have several queens that are promising duplicates of the hundred-dollar queen.

I don't believe queen-rearing begins to be understood. When it is, no queens will be reared in colonies that have fertile queens. First-class queens cannot be reared by that process, and the sooner queen-breeders give it up the better the queens will be. 'Tis unnatural, unscientific, and not an up-to-date method.

I sometimes purchase a queen or two to see what some people are rearing for queens. In all my experience in this line I never have as yet gotten a queen that was worth the two-cent postage stamp that was on the cage. Last season I paid a man $8.00 for two queens. One of them was half fair; and the other was worthless.

Experiment, gentlemen, and get down to a method for rearing queens that will beat Nature out of sight. It can be done. It has been done. My experience in rearing queens over the brood-nest has been that more than half of the queens so reared are worthless; and out of one lot of 35 queen-cells only 2 queens appeared to be worth saving. Other people claim that they can rear good queens in this way. Why can't I? My colonies are as strong, and I feed to stimulate as much as anybody. I had to give up the system several years ago.

I rather like this queen-rearing subject. I have given nearly 40 years of my life to rearing queens, and I shall probably continue in this business as long as I am on earth.

Queens whose colonies fill 100 one-pound sections cannot be considered cheap queens.

Finally, I have shown that a few bees, in a small hive, without a stimulant of any kind, save for the want and necessity of a queen, will produce much better queens than can be produced under the most favorable conditions. One thing is peculiar with the small colony, and that is, I have found the queens they rear are always good—first-class in all respects.

Dr. Gallup is good authority on almost any subject connected with bees, but I believe that I have had very much more experience in this line than he has, or, in fact, any other man living. Essex Co., Mass.

No. 5.—Improving the Races of Bees—Queen Pointers.

BY ADRIAN GETAZ.

(Continued from page 518.

INTRODUCING QUEENS.

You don't want any nuclei. Nuclei are a necessary evil with which the professional queen-breeders have to put up to get their queens mated. The apiarist rearing only his own queens can just as well have them mated in the colonies which they occupy.

One or two days after the old queen has been removed, the virgin queen will be accepted, and could be as well turned in loose. Still it is safer to introduce her caged, and release her the following day.

The trouble will come later, if it does come. If there is any unsealed brood the bees may start queen-cells, and, when they are ready to seal, kill the virgin queen. At least they have done it a few times for me; and since then I never release the virgin until all the brood is sealed. Needless to say that the queen-cells which may be there are removed.

Under such circumstances, a laying queen would go out with a swarm. Why should a virgin queen be killed? When the queen-cells are ready to seal, the queen, whether virgin or laying, will try to destroy them. The bees on the other hand, will try to protect the cells against the attack of the queen.

Now, bees have a great respect for a laying queen and will avoid hurting her. But they may not be so particular about a virgin; and she may get worsted in the scuffle. That would be my explanation.

TO PREVENT SWARMING.

In working for comb honey, it is not possible to avoid swarming entirely. If swarming is allowed, both the swarm and the parent colony are too weak to do much good in the majority of localities. The question comes to keep all together. Some re-queen throughout; and where the majority of the colonies are expected to swarm, it is probably the best. If not, I would treat only those that do swarm.

In the first place, the old queen must be removed or caged as soon as possible. Otherwise there would be a daily swarming and no work done. Furthermore, as long as there are eggs and larvæ present the bees will construct queen-cells as fast as you destroy them. So it is imperative that the egg-laying is stopped as soon as possible.

Later on you can release the old queen, if she is caged, or introduce another one, or let the bees have one from their own queen-cells.

The advice to destroy all queen-cells but one is not good. Cage several of the cells and pick out the best-looking of the queens after they have ermerged. I am partial to color, and also to a long and well-shaped abdomen, taking for granted that such a one contains the best developed generative organs.

Here is the chief point, and the key to success: Be sure that the bees are at least four days without unsealed brood. During these days the bees lose their disposition to

build queen-cells. How it is, I do not know. But I suppose that the majority of the nurses take to the field-work, and that when the egg-laying is resumed, those remaining have all they can do to feed the young brood, and have no time to fool away constructing queen-cells.

CATCHING AND CARRYING QUEENS.

A trick of my own to catch a queen is to throw a cup of water on her, whether she is on a comb or in a queen-trap, or before an entrance-guard.

I frequently carry queens from one apiary to another simply by putting them in the cages described above, and the cages in my pocket. A few hours of fasting does not hurt them.

FINDING THE QUEENS.

Perhaps the most disagreeable part of the operation is to find the queen to be replaced. After trying nearly all the methods of which I read, and almost all those I could think of, I finally settled on the following :

Smoke the colony ; take out the combs as rapidly as possible, putting them into a comb-basket. Look into the hive ; the queen may be on the walls or on the floor. As there are but few bees left she can easily be seen if there. Cover the hive, closing also the entrance. Now shake the bees from the combs on a sheet or some boards two or three feet away from the entrance, replacing the combs in the basket. Cover the basket. Now, uncover the entrance of the hive (not the top), put on an entrance-guard, and start the bees in. You will see the queen readily if she is among them. If not, you will find her on the combs. Do not uncover the hive and return the combs until the queen is found.

Some details need a few more explanations. Do not smoke the bees more than necessary, yet enough so there will be no danger of having to do it again. Smoke first at the entrance, not much, or you might drive the queen in the super or on the under side of the cover. Then smoke from above, not too much, either, chiefly between the combs and the walls of the hive. Then again a little at the entrance so as to drive the queen back on the combs, if she happens to be on the floor of the hive. If supers are on, it is well to first smoke through them, as the queen might be in the sections. The whole is done in little time. The object is to drive the queen among the combs or rather on the combs, instead of driving her off the combs and perhaps clear out of the hive.

It is not necessary to shake off the bees clean from the combs ; only enough so the queen can easily be seen. A virgin queen will be almost always found on the combs ; a laying queen being heavy with eggs will, on the other hand, fall easily from the combs.

In looking over the combs watch especially the space between the comb and the end-bars and bottom-bar. Sometimes the queen is near the bottom opposite you, and when you turn the comb to look on the other side she passes under and is on the "other side, too." I suppose she does that to avoid the sun or the light, as the apiarist inspecting a comb invariably turns it so the light strikes it.

The covering of the hive is to prevent the shaken bees from climbing in (queen and all) before the operator is ready. It also prevents a virgin queen from alighting unbeknown to the apiarist. Virgin queens do often take wing and come back a few minutes later.

If there are some queen-cells on the comb that are to be saved, they should be cut off and caged before shaking, otherwise their occupants might be injured. Often, when ripe cells are on the comb, a number of virgins emerge while the combs are in the basket. Be sure to get them all.

In taking the combs out of the hive, I take one or two on one side, and then begin on the other side. This still diminishes the chances of leaving the queen on the walls of the hive.

QUEEN-TRAPS.

When the apiarist is not present all the time during the swarming season, the best is to have the queen-traps attached to the hives. Then if a swarm comes out during his absence the queen will be caught in the trap, and he then knows which colonies have swarmed, and saves his swarm.

That is all right so far as the saving of the swarms is concerned, but the queens do not remain in the traps. In the course of a few hours they invariably succeed in getting back through the cones. The drones are not quite so smart. Still, a number of them do go back. There is room right here for improvement.

As orginally constructed the queen-traps (and entrance-guards) are a considerable help to the bees against robbers. But the present traps are just the reverse. The robbers learn to get in, and come out through the upper story while the home bees are vainly watching in front of the lower entrance. This should also be corrected.

LONGEVITY OF BEES.

Some writers have lately insisted on having strains of long-lived bees. I do not see the point. Bees in the working season do not die of old age, but from accidents and actual wearing out of the body, especially of the wings. If you look at those which leave the hive to die, you will almost invariably see them with ragged wings, unable to fly any more. But for the accidents and wearing out, the workers might live perhaps as long as the queens.

It has been said also that the rearing of brood is what shortens the life of the bees the most. I just don't believe it. It is true that bees die faster when the most brood is reared. But the bees rear brood when they gather nectar. And it is the gathering, with its exposure to accident and wearing out, that kills the bees. Knox Co., Tenn.

Working for Beeswax in Australia.

In Australia, with honey at a very low price, and with some kinds of honey not readily marketable, there is live interest in the question whether it may be a profitable thing to work chiefly for wax, and the matter has been discussed no little. Opinions vary greatly. R. Beuhne expresses himself thus in the Australian Bee-Bulletin :

The editor of the Australian Bee-Keeper thinks that 13 pounds of honey (the amount which, according to Cowan and Simmins, is necessary) is an excessively high estimate.

In my opinion it is a very low one, and I have never been able to get below 20 in my wholesale attempts some years ago to convert inferior honey into wax ; notwithstanding that the attempts were made under the most favorable conditions of strength of colonies and of temperature, and a dogged determination on my part to succeed, I finally gave it up and got rid of the inferior honey by shifting away from it.

Unless we feed back the honey, which is a ruinous proceeding, we can not get more than one pound of wax to every 25 pounds of honey in running bees for wax. Box-hives produce as high as 1 to 20, when they have been allowed to become chocked up, resulting in endless swarming.

The amount of wax asserted to be wasted when bees have no opportunity to build combs is greatly over-estimated. Has any one ever found a half-ounce on the bottom-board of a hive in which a swarm was hived on sheets or combs ? Let it be wasted ; it is paid for many times over by the honey stored if combs are given, and after a few days it will take all the wax they produce for sealing cells.

"Loyalstone," on the other hand, considers the cost in honey only about a fifth as much. His plan of procedure

will be of interest to any who may be situated so as to have practical interest in the matter. He says in the same journal:

I have not tried the method on a large scale, because my locality is not suited for it; but I have tried it year after year for four years, on various colonies of bees, and have always had the same return of wax in ratio to the amount of honey produced. You will notice that it takes (according to my estimation) about 5 1-20 pounds of honey to produce one pound of wax. Only one kind of hive in my opinion is suitable for wax-production, and that is the "Long Ideal," of 25 frames—20 would do but 25 frames are better. I use the ordinary Root-Hoffman standard frame. The "long ideal" gives the space required for clustering room, a thing absolutely necessary for wax-production. The clustering-room is too cramped in 8 or 10 frame hives. I have all frames with a small stick across center, in place of wire. At extracting time I take out all frames containing honey, extract the honey, then cut out all comb save about one inch attached to top-bar for starter. To describe it better, I will take a case of one hive, "long ideal," 20 frames.

I have to fit a queen-excluder to this hive, which I use the first time I open the hive to extract. I find all the brood-comb, place it together at the front of the hive and place a queen-excluder behind them to prevent the queen from getting to the back. Should there be more than 8 frames of brood in the hive, I place the oldest of them behind the excluder. I keep the hive this way till the approach of winter, when I withdraw the excluder till next season. Occasionally I remove two frames from the brood-chamber, replacing with empty ones from the back.

At first extracting I take, say 10 frames, and cut out all combs, leaving a starter on each and replacing frames in the hive. On the top of this hive I have a kind of super 3 inches deep with canvas cloth on the bottom. After replacing frames I place this super on top and pour into it two-thirds of the honey extracted from the frames, place the lid on top and the bees are forced to consume the honey as it comes through the cloth, and commence comb-building.

At the end of 4 days I open up the hive again and find combs built again, with a fair amount of fresh honey in them; I go through the same process, extracting the honey, cutting out the comb, and returning to the hive, this time returning all honey extracted, together with the one-third left from last extracting, to be sucked through the canvas at the bottom of the super.

After the second process, I generally wait from 5 to 7 days, according to the weather, and again proceed as before, giving back all honey extracted each time to the end of the season. You will notice I always leave two frames at the back. This is to keep the bees in a contented frame of mind. It seems to upset them a lot if the whole of the frames are cleared from the back each time.

After extracting the honey I run it into a watering-can with the nose off, and after replacing frames I place super on, pour the honey in and replace close-fitting cover.

I have tried this experiment with 10-frame two-story hives, queen-excluder between, but with little success, as I could not feed sufficient honey through the super. The extra weight of honey forced it through the canvas too quickly, and the bees could not get sufficient clustering-room without over-crowding one another; in fact, any other hives but the "long ideal" proved failures for wax-production. As I said before, I have experimented on this plan on various colonies of bees, and find the return of wax is 1 pound for every 5 1-20 pounds of honey returned to the hive.

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Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Likely Robber-Bees.

I would like to know the meaning of these actions of a colony of bees: The bees come from the hive with their feet locked, and struggle to get apart, and when they finally get separated one goes into the hive and the other flies away. The bees seem to be working all right.

MASSACHUSETTS.

ANSWER.—A foreign bee has probably made an entrance into the hive to steal some honey and has been nabbed by one of the sentinels. Struggling to get loose, the robber works toward the outside, and quickly flies away as soon as loose.

Some Swarming Difficulties.

On page 488, I read with much interest the swarming difficulties of "Illinois," which he says would knock into a cocked hat all theories he could find in two bee-books. But I think I have just had an experience with one of my colonies which will "go him one better."

On July 22, the first or prime swarm issued, and was duly hived, but after being hived about an hour came out again and left. The next swarm issued on July 27, but it returned to the parent colony after a short time, and before properly settling (2 days latter, July 29) another, the third, swarm issued, but the queen had been caught in an Alley queen-trap, and queen and bees were properly hived and went to work all right. The next day (July 30) the fourth swarm issued, but we again caught the queen and destroyed her, the bees returning to the hive. The next, and fifth swarm came forth August 1, and again the queen was trapped, and bees returned to hive as before. I thought this was quite enough swarming for one colony, but while I was standing in front of the same colony this morning (August 3), and thinking of the trouble they had caused us, another swarm, the sixth one, came forth. I put the queen-trap in front of the hive just in time to catch this queen also, and killed her, thinking the bees would soon return, but as they did not seem inclined, I cut them down from the tree in which they had settled, and mixed them with the swarm hived on July 29. Everything seems all right now, and I hope they will not swarm any more. This one colony swarmed 6 times in 13 days, and 4 queens were caught in the trap and killed. The question I would like to have answered is this:

Did I do the proper thing in this difficulty? and what may be the cause of so much swarming? I may add that the weather has been warm and clear during this time.

MISSOURI.

ANSWER.—July 27 a swarm issued and returned, leaving the colony as strong as before, and when the bees returned July 30 and August 1 it was practically the same as if no swarm had issued, reducing the number of after-swarms to two, not by any means a large number. Put a queen-excluder under a hive before the colony swarms, and the bees may swarm out a dozen times, first a number of times with the old queen in the hive, then more times after a young queen has emerged. If you had left the bees entirely alone, there would hardly have been so many attempts at swarming; or if you had hived them each time there would not have been so many issues. If you had returned the swarms without killing the queens you might have done better, for the colony was left unreduced in strength, and so long as two queen-cells were left in the hive the bees would continue to swarm. Instead of returning the swarm to the mother colony, if you had added the swarm July 30 to

the one hived July 29, it is likely there would have been no further swarming. Better still, if you had put the swarm on the old stand July 29, putting the old hive on a new stand, that would likely have prevented further swarming.

Rearing Long-Lived Queens.

1. Are queens reared in full colonies over an excluder, from larvæ not over 3 days old, reared either by the Doolittle cell-cup plan or by the Alley plan—are queens reared thus inferior to queens reared under the natural impulse of the bees, as by swarming or supersedure?

2. If so, are they inferior only as to longevity, or does it also make them inferior in prolificness?

I have read with considerable interest the articles from Dr. Gallup, as appearing in the Bee Journal, and, although I would rather that the Doctor had been seriously mistaken in his observations, than if he were not, yet the important part of the thing is to know whether we are really rearing queens by the aforesaid plans that will not give us the amount of long-lived workers as will those naturally reared by the bees. ILLINOIS.

ANSWERS.—1. They may be just as good. They may also be inferior. To be just as good, conditions as to strength of colony, yield of honey, and other things should be all right.

2. When they are inferior they are likely to be inferior in both respects.

If Dr. Gallup is right in saying that queens reared by the Doolittle plan or by any other plan than by swarming or superseding are necessarily inferior, then Mr. Doolittle is either ignorant or dishonest. It is easier for me to believe that Dr. Gallup is utterly wrong than to believe that Mr. Doolittle is either a fool or a fraud. Neither does Mr. Doolittle stand alone, for a large number of others that I believe are intelligent and honest stand with him.

Bees Getting Black and Cross.

What is the cause of our bees getting black and cross. When I first got them, and for 3 years, I did not see any black bees, and now more than ¼ of them are blacks, when they were all golden Italian, and all the bees here came from the bees I brought. There were no bees in the woods here. MINNESOTA.

ANSWER.—It must be the working in of black blood. Your young queens might meet drones from colonies a long way off, and it would be difficult for you to be certain there were no other bees within a radius of five miles.

As to the cross bees, it is quite likely that if you observe carefully you will find that all your colonies are far from being alike. It may be that a single colony furnishes most of the culprits. If so, kill the queen of that colony and give them a queen of better stock.

Diseased Brood—Feeding and Moving Bees.

1. I have another nut for you to crack, and it is a serious one this time, I think. I have 7 colonies in box-hives about 16 miles from here. Last April, the men that kept them hived a fine swarm in a 10-frame hive, on 1-inch starters. They filled the hive full of comb, and have a lot of honey. They had a good-looking queen, a few old bees, a little brood sealed, and a little not sealed; a few eggs in worker and drone cells. The most or all that was sealed, and part of the unsealed, was dead. The dead ones are a little dark, and very tough, but not ropy; they smell a little sour, but not much odor at all. The other two frame-hives are all right, and the box-hive seems to be, too. They are in the hot sun; it has been from 100 to 108 degrees in the shade for the past 6 weeks. Do you think it is either foul or black brood? No such disease has ever been here.

2. If it is either foul or black brood they must have caught it by using comb foundation. What do you think about it?

3. If not black or foul brood, what do you think it is?

4. If I send a sample to Dr. Howard, how large a piece, and how should I send it?

5. Would it be safe to ship a few colonies about 500 or 600 miles?

6. If so, would early frost be the best time to do so?

7. I expect, on account of very dry, hot weather, to have to feed some. Will it be best to feed before or after I move them.

8. Would it do to put one hive on top of the other in the car? If so, ought I to nail strips to hold them together?

ANSWERS.—1. I doubt it being either.

2. It is pretty generally agreed in this country that foundation will not carry the disease, and there are other ways by which it may be carried.

3. I don't know.

4. Send a piece two inches square in a tin or wooden box. Of course, the shape and size is not very important.

5. They have been shipped farther than that.

6. Then or a little later would be a good time.

7. The combs will be lighter and less likely to break down if you do not feed till after moving. But if you move before feeding you must move early enough so that it will not be too cold to feed afterward.

8. It will be all right to put one on top of another providing you manage to give air enough. They should be fastened firmly in some way so they cannot move about. Strips would be all right.

Robber-Bees—Uniting Bees—Kingbirds.

I have just purchased 3 colonies of bees in box-hives, which I will number 4, 5, 6, respectively, according to their size. I also have two colonies in a weak condition, Nos. 2 and 3. After getting the box-hives home I placed box 4 on top of a 10-frame empty hive; box 5, which is quite strong, on a stand a few feet to one side; and box 6, a rather small colony, I attempted to transfer by the Heddon short method, but in spite of all the pounding with a hammer and smoking I could do, the bees refused to leave the box. Finally I ripped open the box, and the bees went in the air. Finding mostly empty combs, and brood in the combs with the box, I went to hive No. 3 to get a frame of honey, and on my return the bees from the transferred box were going into box 4, making a great swarm. I immediately looked for the queen of box 6, and after searching half an hour found her on a post near hive 3, having been carried there on my person when I got the frame of honey. I placed the queen on the brood in the new hive, but there were scarcely a hundred bees within.

To-day the big colony 4, busied itself by robbing hives 2, 3 and 6; these colonies were so weak in numbers, and the robbers were so plentiful, that there was no fighting. The robbers also hung in the entrance and unburdened each home-coming bee of her load of honey and pollen. On opening the hives I found what looked like a good-sized colony, so I closed the entrances of hives 2, 3 and 6, carrying them into the middle of a potato-field, where I left them to hum until you can tell me what to do with them.

Hives 2 and 3 have each an old queen, while number 6 has a nice, young queen.

1. So far there has been no fighting, Do you think the robbers, that are inclosed in these hives, will harm the queen?

2. Will they unite with the other bees after being shut up with them?

3. How long can I safely keep them locked up?

4. If I feed sugar-water with a Boardman entrance-feeder at night, will that help to make them stay?

5. Would you advise me to unite the 3 colonies now, leaving them the young queen? or let them drag until fall, when I can secure bees from box-hives that the farmers are going to kill for the honey in them?

6. If I unite the 3 colonies, will that be a good time to introduce an Italian queen? or would it be better to wait until fall, when I add the bees from the farmers' box-hives?

7. There are a happy pair of kingbirds in our orchard that eat a good many of my bees; they are building a nest of grass and cobwebs. Do you think they could materially reduce the number of workers in a medium-sized colony of

bees? Birds are my friends and I would not harm them willingly. My text-book says but little of them.

ILLINOIS.

ANSWERS.—1. They may and they may not. If they do not molest her at first, they will not do so after being shut in for a time.

2. Yes.

3. That depends. If there is no danger of smothering or starvation they might be shut in for two or three weeks, but not without loss.

4. Hardly.

5. Hard to tell; perhaps it would be as safe to unite them now; but if you can keep them from being robbed out, they might be left separate, providing each has a queen.

7. Some think kingbirds do little or no harm, while others think they weaken a colony rapidly. Perhaps both are right, for they may not be the same at all times and in all places. By watching closely you can give a pretty good guess whether they are doing serious harm.

It looks probable that you operated at a time when little or no honey was coming in, and possibly were a little careless as to starting robbing. Look out for that in the future.

Swarming Questions—Scraping Sections.

1. I find a colony of black bees preparing to swarm. I cage the queen, and cut out all the queen-cells at two different times, the last cutting being about 10 days after caging the queen. The queen is then released. A month or so later, upon opening the hive, I find one large queen-cell from which a queen has emerged (being open at the end, with flap still attached), also eggs all through the hive, and a number of swarming-cells with eggs laid in them. Now if the old queen is good enough to swarm with, why did they rear a young one?

2. Upon examining a colony of bees and finding, we will say, 3 or 4 queen-cells in process of construction, how am I to tell whether it is a case of swarming, or supersedure?

3. I have had a swarm this year from a colony in which the queen was reared this season. Upon examination I find a number of colonies with this year's queens reared in hives now occupied preparing to swarm. Isn't it an unusual occurrence? I believe in one of your answers you stated that such *did not* happen.

4. What is the easiest and best way to clean or scrape sections after being taken from the bees, so as to prepare them for market.

NEW YORK.

ANSWERS.—1. I don't know. The case is a very exceptional one. Years ago I treated a great many swarms in the way you mention (cutting out cells twice and releasing the queen after 10 days caging), only I caged the queen *after* the colony had swarmed, and never did a colony swarm the same season after such treatment. I felt greatly indebted to G. M. Doolittle for the plan. You are not likely to have a repetition of your experience in the next forty years.

2. You can't tell at all by the looks of a cell whether it is meant for swarming or supersedure. But you can sometimes make a pretty good guess by noting conditions. A small number of cells is likely to mean superseding rather than swarming. If cells are present in a weak colony, or if the colony has not a large amount of brood, you may guess supersedure. But often conditions are such that it's an even thing which way you'd better guess.

3. It may happen if the queen was reared very early in the season. Such a queen is much the same as a last year's queen. I wish you would tell us if you have had any queen swarm that was reared in her own hive this season as late as June.

4. Quite a number of machines were talked about not so very long ago, and it looked hopeful that we would have a machine that would greatly shorten the work, but nothing has been said about them of late, and I know of nothing better than a sharp case-knife, and a lap-board, having on it a block about an inch thick and four inches square.

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GENERAL ITEMS

Bees a Pleasure.

My apiary is always a great pleasure to me, and this season the honey crop has been unusually good. The white clover bloomed in abundance, and my bees gathered much fine honey from it. All of my colonies are in good condition, and I have some nuclei which are very interesting.

I have always read the American Bee Journal with much interest and profit.

MRS. E. G. BRADFORD.

Newcastle Co., Dela., July 31.

A Wet Season.

So much rain fell during basswood bloom that the bees worked lots of days in the rain; when it got too heavy for them they had to quit business, but part of the time they worked rain or shine. I had some idea why they did it, so I looked, and they did not have anything to live on, and that was why they had to push out in the rain. But at this date they are gathering some nectar. White clover is in second bloom, or took a second growth; for a while it looked as if it would not amount to much, but now it is looking

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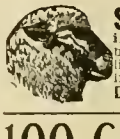

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very well. I am inclined to think the amount of nectar is small; some colonies will store enough to live on, some will store a small surplus, and some will hustle to live through without feeding.

It is warm to-day, as warm as it has been this summer; bees are lying out more now than ever. They seemed strong last spring, but it was too wet in June for them. CHAS. ELLIS.

Newton Co., Ind., July 27.

A Long Honey-Flow.

Our honey-flow comes all through May, June, July and part of August, from maple, willow, white clover, red clover, alsike clover and fireweed and some other weeds. The white clover furnishes honey all the season, as there are no hot days to kill it, and it does not slobber horses here like it does in the East. F. M. MCPHERSON.

Whatcom Co., Wash., Aug. 2.

Tough Season in Western Iowa.

This has been a tough season with us in western Iowa, not a pound of surplus taken off yet; last year at this time we had taken off 1,000 pounds, with ½ less colonies. Too much rain and cold wind when white clover bloomed; what little they got from basswood was needed and taken to keep house on. Rains came through the early part of sweet clover bloom, and now it is about done blooming, and very little surplus in sight. Heartsease and Spanish-needle may spring up on stubble-fields so we will get winter stores, but we will not glut the market with section honey.

I guess if we get to Denver we will have to go on foot, and that is hard on a cavalryman. C. E. MORRIS.

Carroll Co., Iowa, July 30.

"Prime Swarm" and "First Swarm"

On page 501, Mr. G. M. Doolittle says a prime swarm is often erroneously called a first swarm. Please tell us what is the difference between a prime swarm and a first swarm. INQUIRER.

[We respectfully refer the above to Mr. Doolittle himself for answer. Perhaps his "locality" makes the difference.—EDITOR].

Too Dry in Georgia.

Many of the readers of the Bee Journal up North, are having discouraging times on account of the wet weather, but down in Georgia we are having too little rain, and are getting very little honey; but we keep right on getting the experience.

Mr. Dobson and I have 12 colonies in the rear of our shop. They were largely black bees, but we have been introducing Italian queens since they were transferred from the box-hives. When we received 4 queens we took one colony and divided it and removed the queen, and at the proper time we liberated the queens, but they balled them and we caged them again two days longer. Then we looked for queen-cells and in one we found 18 cells which were destroyed. The next time we opened the hive there were 8 more, and the third time several more. Then we

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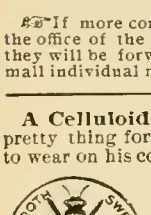

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

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put the bees in one hive on new foundation, and the brood and comb in the other. This arrangement succeeded and all are doing well now.

We are feeding all these young colonies in order that they may fill the brood-combs and be ready to fill the supers when the fall honey-flow comes on. Is not this a good arrangement?

We have two colonies that are nearly all Italians, and can discover more diligence in them than among the blacks.

F. S. DUNKLEE.

Haralson Co., Ga., Aug. 5.

Coolest Season on Record.

The season here was a great disappointment to most of the honey-producers. The most of those who were extracting got a short crop, while the comb-honey man got little or no honey.

With the exception of a few warm days this has been the coolest season and summer on record.

L. L. ANDREWS.

Riverside Co., Calif., Aug. 4.

Did Well on Clover.

Bees are busy working on basswood; they did well on clover and raspberry. We have a little over 100 pounds per colony now, and basswood is not over yet.

E. E COVEYOU.

Emmet Co., Mich., July 29.

Reading the Bee Journal Pays.

I am satisfied the American Bee Journal has paid me many dollars in the production of honey this year. I have 18 colonies of bees and the most of them have produced 100 pounds of comb honey to the colony, this season, while my neighbors' bees have made a bare living. I attribute this wholly to the management, as I have learned many valuable lessons from the American Bee Journal that would have taken years of experiment.

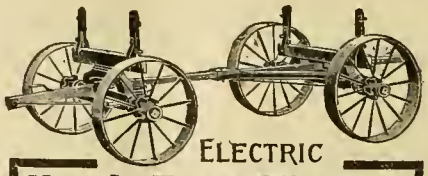
W. P. BROWNING.

Barry Co., Mo., Aug. 5.

Worker Foundation in Sections.

I notice on page 491 something on comb honey and excluders. I have never been troubled much with the queen going up in supers. I use no honey-board of any kind. Although I have a lot of zinc ones I cannot call to mind that I ever had any drone-cells in sections filled with brood. In taking honey a short time ago I noticed one super that the bees had not gone out of, (I use escape-boards); it was full of bees, and they were cross. I smoked them and opened the super, and as I took out section by section I found drone-comb, and instead of capped honey a drone in every cell, just ready to come out. Dr. Miller, in replying to above, says, "I use top and bottom starters of worker foundation, filling the section entirely full." He says "*worker foundation.*" Is this not the same that all bee-keepers use for their sections?

Now suppose the Doctor does fill his sections full of worker foundation, would that prevent drone-comb? I seem to get that idea from the last lines of his remarks. He says, "Or unless the sections were so filled with worker-foundation that there was no chance for drone-comb above the su-



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per." Now, I don't put any foundation on the bottom of my sections, but put in 3 inches; that leaves a space below, and the bees fill the comb down to the bottom of the section.

If the Doctor has a worker foundation different from others will he please tell us about it?

J. W. C. GRAY.

Pratt Co., Ill., Aug. 2.

Hard Season on Bees.

I have 20 colonies of bees. This season has been a hard one on them. I had to feed some in June to keep them alive. They are doing better now, storing in the supers some.

FRED LOCKWOOD.

Greene Co., Wis., Aug. 6.

Expects to Go to Denver.

I expect to attend the Denver convention, and want to be one of the boys when I get there.

The honey season has been all I could ask for, up to Aug. 1, but since that time the bees have been almost idle.

I hope to see you and many of the boys at Denver. E. DAVISON.

Finney Co., Kans., Aug. 4.

Not Much Honey.

We began the season with 6 colonies. The weather was not favorable in fruit-bloom; it rained the most of the time, and continued until basswood bloom, when the bees worked some in the supers. White clover is blossoming fairly well, where it had not been killed during the dry spell last year.

Our bees nearly all swarmed in one day, and all nice, prime swarms, and a few after-swarms.

Last year we had a fair crop by this time, but this year we have not much to show, unless we get a good honey-flow in the fall.

We have 14 colonies now. I like the American Bee Journal very much.

NICHOLAS KLEIN.

Blackhawk Co., Iowa, Aug. 4.

Not a Great Honey-Flow.

The honey-flow is nothing great here. It was too cold and wet in the spring, and now it is cold at night, so the flow is very meager. The basswood yielded only 3 or 4 days. There is lots of bloom but the flow is light.

I have 100 colonies now, but will not get a very large lot of honey.

F. E. KNAPP.

Wadena Co., Minn., Aug. 8.

Not An Encouraging Report.

The spring was so wet that our bees did nothing, hardly making a living, and they got the swarming-fever the worst I ever saw. They would come out and cluster for a few minutes, then go back to the parent colony, and lots of them would leave the new hive directly after being hived and go back to the parent colony.

I don't believe, out of 16 colonies, I will get enough honey for my own use. Up to the present time I have not received a pound of honey. Between my practice and the bees I have been jumping this summer.

There are quite a few here, who, like

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myself, keep bees in a small way, but none of them report any honey, so far. White clover is nearly gone. There may be some fall flow here, but we get the most of our honey from white clover. Every one here works for comb honey. DR. W. H. ELLIS.

Calhoun Co., Iowa, July 31.

Best Season for White Honey.

This has been the best season for white honey in this part of Wisconsin that we have had for a good many years. I have taken from one to three supers from all of my colonies that got down to business, and I think I took the fourth super from one or two.

There has been a perfect sea of bloom from white and alsike clover, and it yielded nectar well. Basswood also was rich with honey this season, though we haven't a great amount of that.

I have increased from 90 to 117 colonies, and for about two weeks had from a few up to 19 swarms daily; the 19 came out on Sunday, of course.

B. T. DAVENPORT.

Green Lake Co., Wis., Aug. 4.

Poor Season for Honey.

This has been a very poor season for honey in this section of the country. I had 18 colonies, spring count, and have only about 100 pounds of comb honey, up to this time. There has been plenty of white clover bloom all summer, and there is plenty of bloom at this date, but there is no nectar in it—the bees do not notice it. Alsike clover failed to furnish any honey this season. I have sowed 3 bushels of buckwheat; it is in full bloom, and the bees are just having a real nice time from daybreak until noon; the balance of the day they do not seem to work much. I expect some honey from buckwheat.

There are a few bees kept in box-hives in this neighborhood by farmers on the old plan—do nothing and get nothing. They grumble and say there is nothing in keeping bees. They will not take the American Bee Journal to learn anything about caring for and handling their bees, so there is no improvement or gain in their lives as bee-keepers. What little I have learned about bees and their keeping has been from the American Bee Journal.

H. C. KUYKENDALL.

Clark Co., Ill., Aug. 5.

Honey-Plants of Australia.

No doubt you will be surprised to receive this letter from South Australia. Last September I subscribed for the American Bee Journal, as I had often heard of it, and I have received much valuable information from reading it.

I am a beginner in keeping bees, and have 60 colonies, which I think is a pretty good start.

Thinking it might interest some of your readers I send an account of the honey-plants in this part of the world. First of all, about August, the bees start to get pollen from wild flowers, and a little from almond and other early fruit-trees, which last until October, when the dandelion or cape-weed blooms very thickly on all farms. About two weeks later bees swarm, if the blue-gum follows; if it does not

they do not, as a rule, swarm that season.

Our main honey crop, which we get about every other year, first of all comes from blue-gum, then red-gum, which blooms from December until February and are the best honey-trees we have. About the first of April the peppermint or a sort of box-tree blooms, and lasts until June, and sets our bees right for winter; and if it does not rain too much we get between 3 and 4 60-pound cans per colony for the season.

I believe it would pay American and California bee-keepers to plant trees, as they stand forever. A. R. BELL.

South Australia, June 16.

Robber-Bees Stinging.

Having noticed, incidentally, that Mr. Hasty has been more than willing to dignify (?) my writings in his characteristic way, I here tender him congratulations, although I would not by any means have my friend get a "bloated" conception of my worth to the bee-keeping world.

That there were in the great army of honey-producers a man, woman, or child, who would assert that the statement that robber-bees sting the defenders of the hive they are going to rob, was assumption, rank with the mildew of centuries past, I could not believe until I read it in his "comments" in a recent issue of the Bee Journal.

Now I wish to say to the readers of this paper, that if any statement of mine herein recorded will not stand the crucial test of modern practice I want the hammer of truth to fall squarely upon it. But to this practical apiarist and critic for the columns of the American Bee Journal, I would suggest the fairness there would be in first giving the matter an impartial test before "passing it up" as mere fiction. Let him effect a genuine case of robbing on the part of Italian bees, and then concentrate these forces suddenly on a strong colony of pure blacks, and record the results. If he doesn't find that the robbing bees sting with effect when they meet with determined opposition, I'll agree to "eat my old hat" for the edification of Mr. Hasty.

W. W. MCNEAL.

Cook Co., Ill., Aug. 1.

CLOSE SATURDAYS AT 1 P.M.—Our customers and friends will kindly remember that beginning with July 1, for three months we close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

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Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

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NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00
GOLDEN QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00

Select tested, $2.00. Breeders, $5.00 each.

2-frame Nucleus with Untested Queen, $2.25 each; 3-frame Nucleus with Untested Queen, $3.00 each; 6 for $2.75 each.

D. J. BLOCHER, Pearl City, Ill.
27Atf Please mention the Bee Journal

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

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GEORGE W. YORK & CO.
144 & 146 Erie Street, CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 11.—Some comb honey produced in 1902 is now on sale. Fancy brings 15c; anything off in appearance or quality sells at 13@14c for white; amber grades, 2 and 3 cents per pound less. Extracted is selling at 6@7c for white; light amber, 5½@6c; dark, 5@5½c. There is a fair demand for all grades and kinds. Beeswax steady at 30c. R. A. BURNETT & Co.

KANSAS CITY, Aug. 2—Receipts of comb honey increasing; fairly good demand. New fancy white, 14@15c; No. 1, 13@14c; amber, 12@13c. Extracted, white, 6c; amber, 5@5½c. Beeswax, 22@25c. C. C. CLEMONS & Co.

CINCINNATI, July 26.—Considerable stock of 1901 crop fancy comb on the market and sells at 14@15c; there is a call for new comb honey, as yet none on the market; this market demands fancy comb; all other grades discourages trade. Extracted is in fair demand at 5½@6c for amber and 7@8c for clover. Beeswax, 28@30c. THE FRED W. MUTH CO.

ALBANY, N. Y., Aug. 1.—We are having some calls for new comb honey, but no receipts to speak of yet. No price established yet, but think can get 15@16c for good white comb. Extracted, demand light.

The crop of honey near here is light, owing to so many colonies of bees having been destroyed. H. R. WRIGHT.

NEW YORK, Aug. 11.—New crop comb honey from New York and Pennsylvania is beginning to arrive in limited quantities. There is a good demand for fancy white at 14c, and No. 1 at 13c, and exceptionally fine lots will possibly bring a little more. Lower grades quiet at from 10@12c. As to extracted honey, fancy grades are in good demand at from 6@6½c for white, and 5@5½c for light amber. Southern in barrels and half-barrels quiet at from 47½@60c per gallon, according to quality. Beeswax dull at from 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Aug. 2.—Some small lots of new comb honey have been coming in, but as the weather is so warm there is very little demand. That sold to stores brought 15c for fancy.

The market for extracted was more lively, brings as follows: Amber, 5@5½c; alfalfa water white, 6@6½c; and white clover, 7@7½c. Beeswax, 30c cash. C. H. W. WEBER.

SAN FRANCISCO, July 23.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4½@—; amber, 4@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

There are moderate quantities arriving, with asking figures in the main above the views of wholesale operators. Business doing at present in this center is principally of a small jobbing or retail character, and in this way transfers are being made at an advance on any figures which would be warranted as quotations based on values for round lots.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.
21Atf Mention the American Bee Journal.

WE can place a few cars of COMB AND EXTRACTED HONEY. Will be glad to correspond with parties having some to offer. We also solicit local consignments.

C. C. CLEMONS & CO.,
29A9t 306 Grand Ave., KANSAS CITY, Mo.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no drip cases.

THE FRED W. MUTH CO.
32Atf Front and Walnut, CINCINNATI, OHIO.

Wanted Comb and Extracted Honey!

State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

WANTED White Clover COMB and EXTRACTED HONEY from New York State. Send sample of extracted, price and grade of comb. W. H. YENNEY,
32A3t Glassboro, N. J.

Please mention Bee Journal when writing.

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1 Tested Queen	.80
1 Select Tested Queen	1.00
1 Breeding Queen	1.50
1-Comb Nucleus, no queen	1.00

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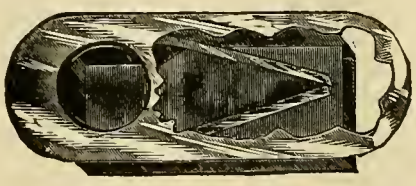

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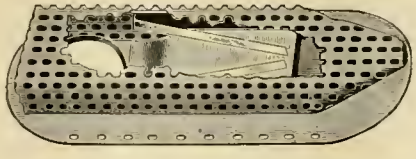

annoyance. If you tier up the supers to rid of bees this is the BEST of Escapes. Try it and you will wonder how you got along without it so long! Price, 25 cents. Address,

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National Bee-Keepers' Convention at Denver, Sept. 3-5, '02
In the Hall of Representatives in the State Capitol Building.

AMERICAN BEE JOURNAL

GEORGE W. YORK
Editor.

CHICAGO, ILL., AUG. 28, 1902.

FORTY-SECOND YEAR
No. 35

WEEKLY

EXPERIMENT APIARY AT THE TEXAS AGRICULTURAL AND MECHANICAL COLLEGE.
(See pages 547 and 549.)

THE AMERICAN BEE JOURNAL

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SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

A New Edition. 19th Thousand.

Prof. Cook's Bee-Keeper's Guide

Or, Manual of the Apiary.

Price, Postpaid, $1.20

PROF. A. J. COOK.

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Prof. Cook has been one of the leading contributors to the American Bee Journal for a quarter of a century. He is well known to bee-keepers everywhere. He is an authority on bees and related subjects. His book has had a large sale, which now bids fair to increase greatly.

In order that every reader of the American Bee Journal, who does not already possess a copy of Prof. Cook's work, may have it, we wish to make the following

FOUR LIBERAL OFFERS:

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No. 2.—Any one of our present subscribers whose subscription is now paid in advance, can have a copy of Prof. Cook's book mailed to him free as a premium for sending us two new subscribers to the American Bee Journal for a year (with $2.00.)

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., AUG. 28, 1902. No. 35.

Editorial Comments.

Change in Going to Denver.—We find that the Chicago & Northwestern train on Tuesday, Sept. 2, at 10 a.m., which we reported that Dr. Miller and others of us would take from Chicago, does not make very good connections, so we have decided to leave on the 6:30 p.m. train out of Chicago, on Monday, Sept. 1. This is a fine train, and arrives in Denver at 7:50 p.m. the next day—only about 25 hours.

We trust there may be others who will join our party on the way.

The Government Chemist on Glucose.—Prof. Wiley was quoted as saying:

"A mixture of glucose with food products, I maintain, is not injurious to health, neither is it a fraud."

The editor of the Modern Farmer and Busy Bee wrote him and received the following reply:

DEAR MR. ABBOTT:—You are right in supposing that I am incorrectly quoted in regard to a mixture of glucose. My argument before the committee was all to the effect that glucose when sold under any other name is a fraudulent article, but that I had no objection to glucose being sold under its own name. I illustrated particularly the matter of honey, where glucose was added without informing the customer, I considered to be an unmitigated fraud.

I will send you copies of the testimony both before the Senate and House Committees, as soon as I can get hold of them. The Senate report has been already published, but I have been able to get but two copies so far. The House report is still in the hands of the printer.

There is greater opportunity now than ever before to secure legislation, and a little influence brought to bear upon the Speaker and your Senators and members of Congress would prove of wonderful effect.

With sincerest regards, I am, faithfully,

H. W. WILEY, *Chief.*

Bee-Keeping as a Department of Study.—This country rather prides itself in its advanced educational methods, but so far as the matter of education in bee-keeping is concerned, other nations can be found much in advance. There are among other nations schools for special instruction in the science and art of bee-keeping, the government providing free tuition under experienced instructors, and in some of the common schools elementary instruction in bee-keeping is given. At Vienna a building has been erected solely as a place of instruction in bee-keeping, equipped with all necessary conveniences for such a school.

Michigan took the lead in putting bee-keeping in the curriculum of study in Michigan Agricultural College, but not more than 3 or 4 other States have followed her example, among which is Texas. Why should not the young man or woman who goes to an agricultural college have an opportunity for instruction in bee-keeping as well as in other departments usually taught? Is there any reason other than the very unsatisfactory one that such a thing has not been done in the past? It might be an interesting thing to have a symposium giving the reasons of the presidents of the different agricultural colleges for leaving bee-keeping out of their courses of study. The columns of this journal are open for any of them, or indeed, for any one else, to give some good reason or reasons why it is not the proper thing to instruct the students of agricultural colleges how to care for bees as well as other farm stock.

Referring to the apiary at the Agricultural and Mechanical College of Texas, Mr. Louis H. Scholl has this to say:

"This is an apiary that not every State has, and we Texans are real proud of ours. I have had charge of it for some time, and we have fixed it up just like the good books say. Bee-keeping will now be taught the students who attend school here, and it is certain that some will go away with a good knowledge of apiculture, and will make successful bee-men when they launch out for themselves.

"We have had a grand meeting, and some more good things to advance the interests of bee-keeping in this State."

Amount of Brood in a Langstroth Frame.—Editor Root and Dr. Miller are having a set-to as to the amount of brood in a Langstroth frame, the former believing there is a border of honey at the upper part which bees are loth to cross to reach the sections in the super, the latter claiming that his bees have brood nearly to the top-bar, and he thinks Mr. Root is out of the way in estimating that a Langstroth frame will be filled only about two-thirds full of brood. Mr. Root referred the matter to their queen-breeder, Mr. Wardell, a bee-keeper for over 30 years. Mr. Wardell was asked, "How full are the average Langstroth frames filled with brood in our apiaries?" He replied:

"That depends on the time of year. Before the honey-flow, when the bees are breeding strongly, the brood will be much closer to the top-bar than during the honey-flow. During the swarming season there will be on an average about two inches or more of honey circling over the brood."

A Comic Book on Bees is mentioned by Albert Gale, in the Australasian Bee-Keeper, and a number of extracts from the book are given that seem funny enough to one familiar with bees and their habits. Of the extracts a very few may be repeated here:

Speaking of drones: "One by one they sail off into space, irresistible, glorious, and tranquilly make for the nearest flowers, where they sleep till the afternoon freshens and awakens them." That the drones must sail off into space to reach the nearest flowers is amusing; that drones visit flowers at all is decidedly so; that they fall asleep upon the flowers till the refreshing afternoon awakes them is irresistibly funny.

Of the queen: "During the slight spasm that visibly accompanies the emission of an egg, one of her daughters will often throw her arms around her and appear to be whispering to her." "Is it not funny?" says Mr. Gale.

Of the nurses: "The nurse-bees feed nine or ten thousand eggs, the eighteen thousand larvæ, and the thirty-

six thousand nymphs." Mr. Gale finds nothing amusing in the feeding of eggs, but thinks it funny that the workers feed the nymphs after they are sealed up.

The strange thing about it is, that this book that Mr. Gale says is the only comic production on bee-life that was ever produced, is the same book that has been approved by some others as thoroughly reliable in its teachings, being nothing less than Maeterlinck's, "The Life of the Bee." The charming manner in which the book is written seems to have blinded the eyes of its reviewers to the many glaring absurdities that Mr. Gale finds for the seeking, and of which he gives nearly a score of samples.

The Weekly Budget.

IT'S DENVER NEXT WEEK.—Are you going?

IT'S THE NATIONAL CONVENTION Wednesday evening, and all day and evening Thursday and Friday.

MR. E. E. HASTY has been in rather feeble health, hence the omission of his department of "The Afterthought" for several weeks.

MR. CHAS. MONDENG, proprietor of the Minnesota Bee-Kee-Keepers' Supply Manufacturing Company, called at our office last week while in Chicago looking up machinery. He reports a good season's business, though the honey-crop is rather short in Minnesota.

OUR AFTERTHINKER, Mr. Hasty, has this said about him by "Stenog," in Gleanings in Bee-Culture:

E. E. Hasty's review of the apicultural world is always readable because interesting. As a critic he is "the good-natured man" of whom Goldsmith wrote. No stings about Hasty. Some funny literature consists of nothing else.

GEORGE F. ROBBINS, formerly of Illinois, but of late years manager of apiaries in Texas for E. T. Flanagan, died very suddenly on Aug. 3. It necessitated Mr. Flanagan's going at once to Texas to see to his property there. Mr. Robbins used to be a contributor of the columns of the American Bee Journal, and a good bee-keeper and writer.

A FULL REPORT OF THE PROCEEDINGS will be taken for the American Bee Journal. We have arranged with an expert shorthand reporter, and expect a fine report. If you have any bee-keeping friends that you would like to have subscribe for the American Bee Journal, you should be able to get them when you tell them of the Denver convention report. We are expecting the greatest bee-keepers' convention ever held on this continent, right in the midst of the greatest honey-producing region in the United States, and among the greatest lot of biggest and best bee-keepers on earth. Now, with such a combination something unusually good for bee-keepers should happen. We believe it will. Better go.

BEE KEEPERS' BADGES.—Referring to this subject, Mr. F. Greiner, of Ontario Co., N. Y., wrote as follows:

"Pres. Hutchinson is not in favor of a 3-cent badge to be worn by members of the National Bee-Keepers' Association at conventions or on other occasions. He wants something less conspicuous and of better quality. I fully agree with him. A button with a bee, he suggests, should show more artistic taste than the buttons I have seen so far. A very expensive insignia, I believe, is out of question, otherwise a golden bee would be very becoming, and not conspicuous. To members who will pay their dues 5 years in advance, paying $5.00, such a bee might be given as a premium. Otherwise every member would have to pay for the emblem. Are bee-keepers willing to do this? is a question."

We hope that a committee will be appointed at the Denver convention, with full power to act in this matter, so that a suitable badge of some kind may be secured for the members. Then, each new member should be presented with a badge when joining. If more are wanted afterward, let the members pay for them. They should sell for not more than 10 cents each, we think.

INTERNATIONAL BEE-EXPOSITION IN VIENNA, AUSTRIA.—A prospectus of this exposition has been received from the management, and preparations are already under way, although the date for the exposition is April 4-26, 1903. Fine quarters have been obtained, and during the course of the exposition three important excursions have been planned. A bee-keepers' convention will occur during the exposition, exact date not yet determined.

MR. WALTER C. LYMAN is one of the leading bee-keepers of Dupage Co., Ill. He has about 60 colonies some 20 miles southwest of Chicago. "Ye Editor" and wife spent part of a day with Mr. Lyman, his mother (80 years of age), and his sister. Mrs. Lyman is a dear old lady, but as young in mind and heart as ever. She is also just as much interested in current events as one 50 years her junior might be. The bee-business is not very rushing with Mr. Lyman this year. It has been too wet and cool.

MR. WM. H. HEIM'S HOME APIARY appears on page 557. When sending the picture he wrote as follows:

"Feb. 22, 1902 (Washington's birthday), was a day not soon to be forgotten in this city and nearby towns, as then a heavy snow-storm visited this part of the State, which was a curiosity, from the saying of old-timers, such as has not been seen for many years. The snow all came in one night, and was from 22 to 28 inches deep, delaying all trains and destroying telegraph and telephone wires.

"My home apiary (of which I send a photo, or a part of it) was, as you see in the picture, nearly covered with snow—a scene that put me in mind of Mr. A. E. Manum's apiary in winter, shown in the 'A B C of Bee-Culture.'

"Our snow did not last very long, as in a few days it began to rain and it was soon all gone."

"THE BEE-KEEPERS' GUIDE, or Manual of the Apiary," by Prof. A. J. Cook, the 17th edition of which we issued recently, is thus referred to by Editor Abbott, of the Modern Farmer:

This work has been thoroughly revised and brought down to date. Some 80 pages have been added and nearly 100 illustrations. In many respects this publication is the best of its kind in existence. It has the merit of being free from all personal advertising, and discusses matters in a way that makes them clearly understood by any one with a fair degree of intelligence. Prof. Cook is always an interesting writer, and, as he is a practical bee-keeper as well as a scientist, he has been able to state things so that they will be understood thoroughly by those who have but little knowledge of the industry. Every bee-keeper should have a copy of it in his library. Parents will find it an advantage if they will place a copy of this work in the hands of their children, even though they have never seen a colony of bees. It will give their minds a bent in the right direction, and furnish them information that will be of practical utility to them as long as they live.

The postpaid price of this book is $1.20; or with the American Bee Journal one year—both for only $1.75.

The Premiums offered this week are well worth working for. Look at them.

Convention Proceedings.

Report of the Texas State Convention, Held at College Station, July 16 and 17, 1902.

BY LOUIS SCHOLL, SEC.

The Convention was called to order at 3:30 p.m., on July 15, by Vice-Pres. H. H. Hyde, in the absence of Pres. Salyer.

The meeting was opened with prayer by F. L. Aten, after which came the reception of new members.

The election of officers for the ensuing year resulted as follows: President, Udo Toepperwein; Vice-President, W. O. Victor; Secretary-Treasurer, Louis H. Scholl, of Hunter.

The following committees were appointed: On resolutions, F. L. Aten, F. J. R. Davenport and H. H. Hyde. On program for next meeting: L. Stachelhausen.

Prof. F. W. Mally, State Entomologist at College Station, delivered an address on the apiary and bees located at the College, and how they were procured. He spoke as follows:

Prof. Mally's Address on the State Apiary.

MEMBERS OF THE ASSOCIATION:—It is no small pleasure to be able to report to you the establishment of an apiary at the Agricultural and Mechanical College since your last meeting. It is not often that our annual meeting can show progress and results in so short a time, as I am able to outline to you this afternoon. The apiary at the College is a direct result and monument to your first meeting and efforts as a State organization. If the value of organization needed any argument, kindly suggest a stronger one than this.

Many of you present today remember that I appeared before you to suggest how to proceed to secure proper funds from our State legislature for establishing an apiary at the College, in order that bee-keeping might be properly taught, and an important industry of our State receive due support in an educational way. I asked you to furnish statistics as to the value of your products, and the capital invested, and also requested that a legislative committee be appointed. This you did promptly, and during the session of the 27th legislature I left no stone unturned to prove to the finance committee of the House the importance of providing the funds asked for.

Mr. G. F. Davidson deserves special mention in this connection for having spent his own time and money to visit Austin and explain many of the practical details to the committee. Outside of the technical information required, or the support given the Bill by bee-keepers and others, the Hon. W. O. Murray, a leading member of the Finance Committee of the House, deserves unstinted praise.

He was the bee-keepers' friend from first to last, and but for his dogged determination to stick to his text, the bee-keepers could not to-day be invited to an inspection of the college apiary.

There is, I fear, a little misunderstanding by some as to the nature of the appropriation. We were provided with $500 the first year, and $250 the second year, for equipment. This means that money was appropriated to organize and equip the apiary, but no money was appropriated for the salary of a bee-keeper. Hence the apiary, so far as the help and assistance are concerned, has been maintained by my department, out of the Entomological Assistance Fund. I have been able to do this because I was unable to procure a proper man until several months of the salary had elapsed. At the proper time I was then able to secure additional expert service in practical bee-keeping by employing your honored Secretary for a couple of months before the close of the fiscal year.

After the close of the fiscal year, Sept. 1, there will be no such funds, and we shall have to do the best we can in managing the apiary in a small way as a model for instuction. This we can hope to do successfully, but I fear not much time or funds will be available to devote to experimental work.

I have been especially fortunate in securing the services of Mr. Wilmon Newell as my assistant in the Department of Entomology. He is also an experienced bee-keeper, and you can fully rely upon his scientific accuracy as well as practical judgment in the future managment and development of the apiary. I commend him to you and solicit your hearty co-operation in his behalf.

The $500 for the first year has been practically expended. We have enclosed a beautiful ten-acre block of ground under fences. This block has a small, wooded ravine running through it, and an enticing natural grove, making it an ideal location for an apiary. Here has been built the bee-house, and equipped with everything that should be found in a well-equipped, up-to-date apiary. Some models are, of course, "dead timber," as it were, but they are important for teaching students, by comparison, the advantages of one hive or implement over another. Hence, I think we have all our apiary needs as a practical money-making apiary, and in addition many things which are important in a complete course of instruction in bee culture at the Agricultural College.

We had hardly started with the apiary on the College grounds when we found ourselves confronted by the very serious conditions of a sparse honey-pasturage, and it became at once imperative to study the honey-plants of Central Texas, systematically and thoroughly. This immediate section is not well provided with indigenous honey-plants at critical times in the production of surplus honey. Under direction of this Department Mr. Newell and Mr. Scholl have made quite a complete collection of the native honey-plants, and we shall constantly enlarge upon this. It is needless to state, therefore, that this Department at once began a systematic study of the honey-plants which might be tested on the College grounds with a view to determining their adaptability and successful introduction and cultivation. Some 30 or 40 different varieties have been sown each month during the season, and many valuable data have been already noted, some of which will enable us to secure a continuous honey-flow for this locality the coming year.

It is proposed to make a complete study of the honey-plants of the State and make a map of their geographical distribution. This will be accompanied by a map showing the time of best honey-flow in the various sections of the State for each leading honey-plant. Much can be done along this line, and it is the first important work which this Department proposes to investigate thoroughly.

F. W. MALLY.

The apiary, or bee-yard, referred to, has been located at the Agricultural and Mechanical College of Texas, at College Station, in connection with the Department of Entomology at that institution. It adds to the already large number of courses of study at the College, a course of instruction in up-to-date bee-keeping, both practical and scientific. It is now beginning to be realized that in the bee and honey interests of the State, Texas has a most important agricultural resource. Already Texas produces annually more honey than any other State or country in the world, and still thousands of square miles are annually furnishing in their trees and plants millions of pounds of honey which await only the bee-keeper and his faithful little workers—the bees. Already many firms and individuals are devoting their entire time and capital exclusively to this industry, one firm alone producing annually over one-half million pounds of honey. In addition thereto, this industry furnishes beeswax, vinegar, refreshing beverages, and derivatives for medicinal use.

Texas should be proud of what has been done, there being but three or four other States that have established an apiary in connection with their Agricultural and Mechanical College.

In concluding, Prof. Mally kindly asked the bee-keeping fraternity to lend freely their help by giving their suggestions and advice, which would be greatly appreciated, and would help the bee-keepers as well as the Department in conducting the study of bee-keeping at the College. He also requested the President of the State Bee-Keepers' Association to appoint a committee to inspect and investigate

all that had been done, and report on the same, with suggestions and advices. Prof. Mally finished by remarking what a grand State Texas is for such a pursuit, and mentioned the wonderful things that could be done; also, how he expected to see to it that Texas bee-keeping should be brought up to a high standard. He will keep bees upon his extensive truck and fruit farms in East Texas, and in a few years expects to have a large number of colonies of bees.

The president, Mr. Udo Toepperwein, spoke a few words of thanks in behalf of the bee-keepers, for the pleasure afforded them by Prof. Mally's address. Pres. Toepperwein also appointed a committee of three, viz., L. Stachelhausen, F. L. Aten, and Mrs. C. R. West, to investigate and report upon the college apiary. Later, they reported as follows:

REPORT ON COMMITTEE ON STATE APIARY.

"Your committee has investigated the apiary upon the College grounds, and has found 16 colonies of bees in good and healthy condition, a very neat honey-house, and in it all necessary implements for the apiary. Our opinion is that the small sum of money at the command of Prof. Mally was invested in a very proper way for the purpose of creating the apiary, the object of which is to serve as a medium of instruction in apiculture to students of the College. Especially were we pleased with the orderly and systematic arrangement of the whole.

We hereby recommend that more money be expended on this apiary so that it will contain at least 50 colonies and the necessary implements, as we think that the present number of colonies is not sufficient for the proper carrying on of experiments. L. STACHEMHAUSEN, FRANK L. ATEN, MRS. C. R. WEST } *Committee.*

(Continued next week.)

Contributed Articles.

Preparing Bees for Winter—When and How.

BY G. M. DOOLITTLE.

A correspondent writes me that he desires to do the best he can with his bees at all times of the year, and that he has been benefited much by my writings. He still wishes to benefit by them by me giving an article in the American Bee Journal regarding when to prepare bees for winter. He says his neighbor tells him that December is soon enough to get the bees ready for winter, but he has been wondering if it was not too late.

Well, I will do the best I can in the matter, but I will say that we do not all see alike in regard to the time when bees should be prepared for winter. Many seem to think that the latter part of November or December is early enough to prepare bees for winter; but some of our best apiarists have learned that the best results in wintering can be secured only when preparations are begun early in the season, so that the inside of the hive need not be disturbed after cold weather arrives. Therefore all colonies are to be looked after as soon as the honey harvest is over, to see that they have good queens, and that there is plenty of brood in all stages, for this brood is to produce the bees which are to live through the winter months; and if, for any reason, there is not plenty of brood at the end of the honey harvest, it is easy to tell what the result will be the following spring.

If any colonies are found that have been short of brood, the queen should be changed for a good one, and brood from those which have an abundance be given them so that they can build up so as to be sufficiently strong in bees before cold weather sets in. If by any means, after all our precautions, the 20th of October finds us with weak colonies, they should now be united, for it is useless to attempt to winter very small colonies unless we have some special place to put them in, which has proven during the past to be sufficiently equal to the wintering of such small colonies.

Again, we wish to know that all have honey enough, of *good* quality for winter. *Good quality in honey* has much to do with the safe wintering of our pets: in fact, I believe *more* than any one thing which can be named; and he who does not pay any attention to this matter cannot expect to succeed to any great extent.

But what is good quality in honey? may be asked. If we look to Nature for an answer—that Nature which preserved our bees all through the thousands of years before man began to keep them for the profit in them—we shall find that, as a rule, the honey which a colony left undisturbed by man has in store, is that which has been on the hive long enough so that it is thoroughly ripened, having that rich, good quality we all like so well. Now such honey as this cannot be gotten just at the close of the season, where the extractor has been used till the very last thing, as many novices, and even older ones, persist in doing, leaving only the thin, watery stuff which comes at the time of the year when extracting is usually left off, for the bees to live upon. In my opinion, upon the injudicious use of the extractor has been chargeable much of the loss of bees in wintering during the past quarter of a century; for in nearly every instance where we have heard of large yields of honey taken with the extractor late in the season, we were almost sure to hear of a corresponding loss of bees by the same persons the next spring.

To overcome this difficulty it is better to set aside enough combs of thoroughly ripened and sealed honey during the season to winter our bees; and then, when the honey-yield is over, exchange combs with the bees; extracting all that is left in the combs taken this late from the bees, if we so desire, or carry it over in the combs to help build up the colonies in early spring, if this seems better in our sight. In this way we are sure that the bees have such honey as they ought to have to winter on. Of course, this applies only to those who are prone to extract too closely during the earlier honey-flows; but it is a good plan to work a few colonies for such combs of thoroughly ripened honey to be used in case of emergency, no matter how the bees are worked. Each fall finds me with an average of at least two full combs of such honey for each colony calculated to be wintered over.

Another reason why we should not put off preparing the bees for winter till cold weather comes, is that, if we do this, they cannot well get their winter stores near and around the cluster in time for them to settle down into that quiescent state so conducive to good wintering, as they should do prior to November 10th to 15th. To arrange these stores, and properly prepare them, requires warm weather, hence all will see the fallacy of putting off caring for them till cold weather arrives.

To be sure that all have enough honey for safe wintering, this can be ascertained by weighing a hive filled with empty combs, of the same pattern as those which the bees are in; or the frames can be taken out and the honey "counted off," as many prefer to do, myself among the number, as this gives you the whole of the wintering matter in only one manipulation.

To be absolutely safe, 30 pounds should be allowed for each colony to be wintered on the summer stands, and 25

pounds for each colony to be wintered in the cellar or special repository.

However, if we are willing to look after them when spring opens, 25 pounds for those out-doors, and 20 for those wintered under cellar protection, will do well enough; and in season of scarcity my bees have gone through safely from September till April on 20 pounds for those left out and 15 pounds for those carried in.

If there is not honey enough, after all are equalized in the apiary, to give sufficient stores to all, then draw on those combs you have set aside for emergency; and if not enough of these, then you will have to resort to feeding. As I go over the hives I carefully note the quantity of bees, age of the queen, amount of pollen in combs, etc., which is jotted down on a piece of honey-section, this piece being left on top of the hive, so that the next spring I can tell just what was in each hive the fall before, so that in case of loss I can form some idea of what occasioned it, and also tell what is the first thing to be done with each colony when spring opens. This little piece of section also helps me in deciding what queens to supersede during the next season, for on it I keep quite a record of when the colony swarmed, if it did so, how much honey it stored, etc.

After having the bees prepared as above, they are to be snugly tucked up in their chaff and sawdust cushions, at any time before the middle of November, when most convenient, after which they are left undisturbed till spring, or till placed in the cellar, according to where we winter our bees.

Onondaga Co., N. Y.

The Value of Honey as a Food.

BY PROF. SHUTT.

[The following is part of a very interesting address made before the Ontario Bee-Keepers' Association by Prof. Shutt, and reported in the Canadian Bee Journal. It would be a good thing if bee-keepers could have it copied in their local papers.—EDITOR.]

HONEY AS A FOOD.

With regard to this matter of the position of honey as a food, honey must be classed with the saccharine foods when considering its value. In order to appreciate its value intelligently, I shall have to say something with regard to the general food constituents as found in all foods. It will not take me more than a few minutes just to outline their nature and their composition and function in the animal system. We find that all foods comprise a greater or less quantity of the following classes of constituents: Protein or albuminoids, fats, starch and sugar, ash or mineral matter.

Now, first of all, with regard to protein or albuminoids: These materials all contain as an essential element of their constitution, nitrogen. Now, if you ask me for an example of protein or albuminoids I should at first name the white of an egg, which is pure albumen; it is one of the purest forms in which we can obtain protein; then the curd of milk and gluten of wheat are others. There are more or less pure forms.

Fat or oil I need not describe to you, because we have in so many articles, such as butter and various classes of oils, materials that you are perfectly familiar with. You know what I mean when I refer to and mention the word fat

With regard to starch and sugars, those are known to the general chemist as carbo-hydrates. You have already learned from what I have said that starch and sugar are related chemically, so that all those substances which come underneath that head we call carbo-hydrates. Then there is also ash or mineral matter which, in the body, goes to form the bone. These substances you understand are present in greater or less proportion in nearly all our foods, though not in all; we shall see in that respect honey is not a complete food.

I have said it is absolutely necessary that a complete food should contain these. First of all, the body requires something to build up its tissues continually. There is waste of our tissues due to muscular energy. Every time I speak a word or move my arm there is a certain waste of the system and this must be replaced; it is due to the protein or albumenoids that repairing of the waste of the body takes place, and consequently in order to restore life we must have foods which contain a certain proportion of protein or albumenoids. Such have this quality of being muscle-builders, body-builders. They contain nitrogen as an essential element. These other materials, fat, and starch, and sugar, and so on, do not contain any nitrogen. The chief intention with regard to protein and all albumenoids is to build up the body and repair the waste which hourly takes place.

With regard to the fats and sugars, we have materials which are useful in keeping up the heat of the body. If you put a thermometer in your mouth you will find that the temperature is somewhere in the neighborhood of 100 degrees Fahrenheit. How is that maintained? In the same way that heat in the stove is maintained. The wood is burned in the stove; the food is burned in the body. It is really a process of combustion; and the combustion of fat and starch and sugar within our bodies gives rise to heat. Heat is only another form of energy. We know that. Therefore we are able to convert the heat produced by the combustion of our foods into physical force or energy. So that we have in these two substances—fats and carbo-hydrates—those materials or constituents which have for their cheif functions the development of heat and energy within our bodies.

Of course, the formation of fat takes place; a certain quantity of fat within the body is formed and we further find that that fat may be formed from either one of those three substances, but chiefly from the fat and carbo-hydrates of the food. It is important for us to know that a complete food must contain all those classes of constituents, and that protein or albumenoids differ, from those others, in possession of nitrogen, and that the latter are absolutely essential and cannot be left out of our daily diet, from the fact that it is necessary to build up the body and repair the waste which is constantly taking place. It is also necessary we should have a due portion of fat, starch, and sugar, in order to produce the necessary heat of our bodies, and for the purpose of developing energy.

There is also a certain proportion of mineral matter, or ash, required for the development of our bones.

Having said so much, where does honey come in? Honey is not a complete food, it does not contain any protein or albumenoids; it is not a body-builder, it does not contain any fat, but it is a substance of great value from a saccharine standpoint. It consists of sugars, dextrose and levulose, principally; consequently, we have a substance which from the food standpoint is strictly comparable with sugar.

The digestibility of food in a large measure limits or regulates value. It is not the food we eat that does us good, it is the food we digest and assimilate, that is, is converted into body-tissue or helps to develop heat and energy. When we take cane sugar or syrup into the mouth it is mixed with the saliva and converted into the form of glucose, and that is the form of sugar which is assimilated and passes into the blood and nourishes the body. We have that work already done in the case of honey; it is then already in the forms of dextrose and levulose, and therefore sugar in honey is what we may term a partially digested form; it is at once presented in a condition that is immediately assimilable and

may pass into the system. From this standpoint we may say that 95 parts of honey-sugar are worth 100 parts of cane-sugar for the purpose of assimilation.

We already have been saved the expense, so to speak, the physiological expense, of conversion of that sugar into assimilable forms. Honey as a food material, furnishes in a palatable, wholesome and readily digestible and easily assimilable condition, sugar which may act for the production of heat, for the development of energy, and also for the formation of fat within the body. From the foregoing considerations you see, we could not live on honey alone, no matter how desirable from many other standpoints, simply from the fact that it does not possess any of these protein or albumenoid substances which furnish the necessay nitrogen, neither does it furnish the bone-forming material. I think, however, it is one of the most digestible, most agreeable, most palatable, and most assimilable of all forms of sugar.

With regard to its position as a medicine I cannot say very much. It is used as a demulcent and as an anti-irritant for affections of the throat and coughs, and so on. It is slightly laxative in its character and it has some value as a medicine in that direction. But I thiuk it is used medicinally principally for coughs and colds and affections of the throat, although possibly to some extent as a laxative. In former times it was employed medicinally to a much greater extent than it is now.

Rearing Queens—Another Jury Member Speaks.

BY E. S. MILES.

I have read the articles on "Rearing Long-Lived Queens and Bees," by Dr. Gallup, and since they do not seem to commend the queens as now generally reared I have been expecting to see some of our queen-breeders defending their methods. As the Doctor has left the case with the "jury," and seems to expect a verdict (see page 471), or at least a defense, I beg leave to give a little of my experience with queens.

Now, I cannot site the readers back to 30 or 40 years with bees, as I have had bees just 10 years this season. After having all kinds of queens, as to manner of rearing, and after having owned several dozen queens from several different breeders, I wish to say positively that my experience has been altogether different from Dr. Gallup's. When I first began with bees I noticed, every now and then, in the bee-papers, some one, like Dr. Gallup, who would tell how natural-swarming queens were so much better than others, that for several years I was afraid to try to rear any queens except as I could save cells at swarming-time. After a few years' experience I found that there was a great difference in queens from swarming-cells, and I also found that a good, fair nucleus would sometimes rear a fairly good queen.

Now, I use the 8-frame hive, but don't think that I don't know a good queen, for I have had two stories and 10-frame brood-chambers, and have also known colonies to be in large boxes, box-hives, etc., so I know pretty well what a queen ought to do here in the way of producing bees.

I clip every queen as soon as she begins to lay, and keep a record, so I can tell, without any chance of making a mistake, whether a queen lives one year or six. Every purchased queen is clipped before being introduced, so there is no chance for superseding without my knowing it. Of all the queens I ever purchased or reared by artificial methods I never had one that did not get up to 5 Langstroth frames of brood; and all but one or two purchased queens filled from 6 to 8 of the combs in the 8-frame hives.

As to the longevity of the queens, I believe the transportation through the mails, or something that happens to them between the place of rearing and their final home, does shorten their lives; but that it shortens the lives of their workers, I never could see.

One of the poorest queens I ever saw was a "superseder." She could fill only 5 frames, and those scattering, nearly half the cells missed, and she gave out when less than two years old. Another one, I believe the poorest queen I ever had, was from a swarming-cell, and as fine and large a queen as I ever saw, but absolutely worthless, and lived less than a year.

I have had a great many "swarming and superseding" queens give out at two and three years. On the other hand, some of the most profitable colonies have been "mothered" by queens reared by the "Doolittle method" or modifications thereof. I have never had one such give out the second year, as the Doctor says they do, and I have had several do good, profitable work the third year.

So I write this not to argue with any one, not to criticise, but in the hope that some beginner may save valuable time in learning how good queens are reared.

I do not wish to be understood as claiming that natural-swarming queens are not good, but only that there are poor ones among them; and that queens reared under artificial methods from the best stock are worth more than natural-swarming queens selected haphazard as to stock. And, further, I would as soon have them as swarming queens from any stock.

I hope to hear from more of the "jury."

Crawford Co., Iowa, July 25.

The Bee in Law—Keeping of Bees; Damages—When, and When Not, Recoverable.

BY R. D. FISHER.

1. *Definition.*—Damages are the indemnity recoverable by a person who has sustained an injury, either in his person, property, or relative rights, through the act or default of another.

2. *General Principles.*—Whenever an injury is done to a right, actual, perceptible damage is not indispensable as a foundation of an action: but it is sufficient to show the violation of the right, and the law will presume some damage.

But no damages are recoverable for a mere inconvenience attending the existence of a public benefit; or for any lawful act lawfully done, which, if causing damage, is *damnum absque injuria*; or for any act causing no legal injury, which is *injuria sine damno*; or for an injury caused wholly or in part by the complaining party's own wrongful act, default, or negligence.

3. *Nominal Damages.*—Proof of the violation of any legal right entitles the injured party to some damages. If no actual damages appear, nominal damages are given for the technical injury.

4. *Substantial Damages.*—Where actual injury and the violation of a right are proved, substantial damages may be awarded as compensation to the injured party, and in certain cases as punishment to the wrongdoer. In arriving at the proper amount of damages, the courts follow defined rulse.

5. *Remoteness.*—Immediate or consequential damages may be considered. No one is held responsible for all the consequences of his acts or defaults, but only for those which the law considers the natural consequences. These are either the direct consequences or they are indirect. For all direct consequences, whether they are such as inevitably ensue, or such as have naturally ensued in the particular case, the person guilty of the cause is held absolutely liable.

Such damages as the cause produced naturally but indirectly are called consequential.

In case of *tort* not involving malice, damages may be recovered; not merely for the direct consequences, but for such indirect results as might reasonably be expected to ensue by a person of ordinary intelligence, or for all the natural consequences of the wrongful act.

6. *Personal Property*; *Trespass.*—For asportation or destruction of his personal property, so that the owner is wholly deprived of it, he is entitled to recover its value at the time of the trespass. This is the measure of damages for the entire loss of the property. For an injury to it there is a right to a proportionate recovery.

The measure of damages for the conversion of property is the value of the property at the time and place of conversion. The element of damage to be considered in case of injury to the person is, the plantiff's time of loss from business or employment; his loss of capacity to perform the kind of labor for which he is fitted; expenses for medical services, nursing, and mental and physical pain. The same rule will apply to injuries to animals.

We have set out the above principles of damages for the purpose of discovering, if possible, under what branch or branches damages may be recovered for injury or losses in consequence of keeping bees. In a previous article we reviewed the causes of damages growing out of the nuisances committed by bees. In this article we desire to review the rules regarding the bee as a trespasser. One who feels aggrieved by reason of trespassing bees may bring an action against the owner for damages, and may recover upon proper proof and identification of the trespassers for their original act of destruction; and successive actions may be brought to recover for damages for the continuation of their wrongful trespassing; but in all these cases damages are estimated only to the date of the bringing of each suit (*101 N. Y., 98*).

CAPACITY TO TRESPASS.

Courts judicially know that bees can not be stabled as other animals are; that to do so would destroy their value as property. If the owners of houses, grocers, and fruit-dealers and fruit-raisers were not careless in leaving attractions for them, bees would commit no trespass. They would go to pasture among forests, fields and amid flowers. But the grocers, fruit-dealers, and fruit-raisers say they are not required to screen against bees if domesticated and regarded as property; that the law should protect them from the ravages of trespassing bees the same as from any other trespassing animals. This is true only in so far as identification can be made positive. The instinct of bees is well understood, but their identification is difficult. The relation between fruit-growers and bee-keepers is said to be somewhat strained. The former claim it to be fair to compel the bee-keeper to feed his bees at home in seasons when they would otherwise prove a nuisance and damaging trespassers to his neighboring fruit-grower. Whether it would or would not be possible to keep bees at home by feeding them heavily is an open question. But this plan would entail a heavy tax upon the bee-keeper. Would it be just to make the bee-keeper pay this when, quite likely, the cracked and rotting fruit which the bees would take from the neighbor's orchard has been produced, at least has set, because of the labors in pollination of these same bees? When bees find a fair supply of nectar in the flowers within reach of the hive they prefer that to fruit, and few bees then attack fruit. But it is not at all sure that liberal feeding will keep all of the bees at home, or nearly all of them, from trying to get fruit sugar or juices.

The next suggestion is that of moving away if the cost would be less than feeding. But can the bee-keeper get away from the fruit-grower? If the extensive fruit-grower can sue and collect damages for injuries to the fruit on his 1,000 trees, the owner of one tree, and 1,000 owners of trees within flying distance of an apiary, can also collect. If an abundant bee-pasture happens to exist a few miles away, the solution is easy and moving is practical. But this is usually of short duration; civilization and improvements, farms and fruit-gardens, soon follow, and the cry is again, "Move on!" On the other hand, it is claimed that the damages to fruit alleged to be due to bees is too remote and uncertain; and, as already stated, the benefits from pollination are equal to the damages. Few, if any, cases have reached the higher courts, and the judgment in the lower courts are largely based upon actual damages proved, and identification of the trespassing bees.

INJURY TO PERSON OR PROPERTY.

A small son of an Indiana farmer left the team he was driving, near some bee-hives, while he chased a squirrel. The horses backed the wagon into the hives, and the animals were so badly stung that they died. The boy was also stung so badly that he lost the sight of one eye. It was held that the boy's contributing negligence occasioned the injury and resulting damages, and no recovery could be had.

An Iowa farmer maintained a hitching-rack at the roadside in front of his residence. Near by, but within his inclose, he kept a number of stands of bees. A neighbor voluntarily hitched his horses to the rack. A swarm of bees settled upon the animals, causing them to break the tethers and run away. In their flight they collided with a team and vehicle going in an opposite direction, and both teams and vehicles were damaged. It was held that the hitching of the horses near the bees was a voluntary act, and the attack by the bees was too remote to justify a recovery from the bee-keeper for the joint damages suffered by the owners of the wrecked outfits.

In the case of Earl *vs.* Van Alstine (*8 Barbour, 630*), the New York Supreme Court held that the owner of bees is not liable, at all events, for any accidental injury they may do; that one who owns or keeps an animal of any kind becomes liable for any injury the animal may do, only on the ground of some actual or presumed negligence on his part. It was alleged in this case that defendant owned and wrongfully kept fifteen hives of bees in his yard adjoining the public highway, and that the plaintiff's horses, while traveling along the public highway, and passing the place where the bees were kept, were attacked and stung so severely that one died and the other was greatly injured. A judgment of $71 was appealed from, and the court, in revising this judgment, said: "In an action against the owner of bees for an injury done by them to the plantiff's horses while traveling along the highway where the bees were kept, it appears that the bees had been kept in the same situation for nine years, and there was no proof of any injury ever having been done by them, but, on the contrary, neighbors testified that they had been in the habit of passing and repassing the place frequently, without having been molested. This rebutted the idea of any notice to the bee-keeper, either from the nature of the bees or otherwise, that it would be dangerous to keep them in that situation, and hence he could not be made liable."

If damages be done by any domestic animal kept for *use or convenience*, the owner is not liable to an action, without notice (*13 John, Rep., 339*). The utility of the bees no one will question, and hence there is nothing to call for the application of very stringent rules in their case. However, the question whether or not the keeping of bees near a highway subjects their owner to a responsibility which would not otherwise rest upon him has not, to our knowledge, been passed upon.—Gleanings in Bee-Culture.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Getting Winter Stores—Denver Convention.

1. I started a new colony in June by taking out 2 frames of brood from an 8-frame hive. Now the old hive has the 2 outside frames full of honey, all capped over, and the most of the brood-frames are ¾ full of honey. I put on a super of sections, and they are working in them—have the middle rows filled and capped. What I wish to know is, if I take out 1 or 2 of the outside frames that are filled with honey, and put in a frame with a full sheet of foundation, can they draw it out and fill it before cold weather? and will it stop them from working in the supers? The reason I want to take it out is for feed in the new hive this winter. I would put it in the new hive about the last of October or first of November. This is my first season with bees.

2. I expect to be in Denver the first week in September, at our Letter Carriers' Convention. Could I attend one of the bee-keepers' sessions, while there? MISSOURI.

ANSWERS.—1. Whether the bees can fill up again depends entirely upon the harvest. The chances, however, are that storing will not yet stop with you, and in case the vacancy was not filled it would be an easy thing to return the combs removed. As two of the eight combs have no brood in them, and the remainder are only about one-fourth filled with brood, there is some danger that the colony may go into winter quarters weak in bees. Therefore when you take away the frames of honey, put the frames of foundation in the middle of the hive, so as to encourage the rearing of brood. There is danger that in taking away outside combs you may take away all the pollen in the hive. Taking away honey from the brood-nest will not stop storing in the super if there is enough storing for both, but, of course, what goes into the brood-chamber will be that much less in the super.

2. The sessions of the convention at Denver will be open to the public. At the same time it will be to your advantage to become a member of the Association.

Foul Brood.

I have had bees for some time, but never had any experience with foul brood until last spring, when I first noticed it in one colony, and they increased and threw out a swarm and left a good colony in the old hive. The brood that died was coffee-colored, and now almost all the other colonies have it. Will they breed and swarm with it? I thought at first it was chilled, as we have had so much bad weather. What shall I do with it? I do not want such a mess around. We are in need of an inspector here. If there is a cure for it besides fire, I would like to know it. OHIO.

ANSWER.—The best thing you can do is to get Dr. Howard's pamphlet on foul-brood, and also read up the instructions given in your text-book. You are entirely right in thinking a foul-brood inspector is needed. A good foul-brood law should be enacted in every State, with proper officers to carry it out.

Troubles in Introducing Queens.

1. I have some trouble introducing queens, but I never had so much before, with 3 colonies as follows: One swarm 1 month ago; I divided colonies and left one queen-cell; it did not hatch; and then I took a laying queen, placed over frames, as usual, and after being over frames 4 days I let her out, expecting her to be all right, but she was crippled so she died before I could get her. Two queens were lost in fertilization, and the bees set to biting wires, and I know what that means. I considered it too late for dividing and cut out cells. The queen is lost. Now, is there any way to bring bees to time? There are plenty of bees in said hives. I am sure there is no queen as there are no eggs, nor laying workers, as yet.

2. Now suppose I buy queen-cells, placing them in hives, would that way be all right? I have no cells myself, but can get some.

3. Is it safe to carry them 4 miles, as I have found out it takes a very small jar to kill a queen in the cell. ILLINOIS.

ANSWERS.—1. It is possible that the difference in the season had something to do with the trouble. When honey is coming in in a flood, bees are much more tractable about accepting a new queen than they are in time of dearth. Perhaps you might succeed better if you did not have to open the hive to liberate the queen. The opening the hive, especially in the time of scarcity, when robbers are ready to pounce in whenever a hive is opened, is likely to make the bees hostile to the new queen. Opening the hive in the evening, when robbers have stopped flying, is safer. It is also safer to have the queen liberated without opening the hive at all, letting the bees do the liberating by having them eat through the candy of an introducing-cage. You might try Simmins' method of direct introducing: Let the queen fast half an hour before introduction, and then smoke the bees at the entrance, open the hive and smoke a little on top and then let the queen run down between the top-bars.

2. Very likely the queen-cells would work all right, although you are never entirely sure what whims a stubborn colony may take.

3. Pack the cells in cotton, put them in a breast-pocket where there is no danger of their being chilled, and they will carry all right if you do not do any high jumping.

Bisulphide of Carbon for Fumigating.

1. How much bisulphide of carbon will it take to treat two or three thousand pounds of comb honey?

2. What is the cost of it? And could you get it for me? WISCONSIN.

ANSWERS.—1. I don't know as I can give a definite answer. Something depends on the size of the quarters that contain honey, and the closeness of the walls. In a large room much more would be needed than in a small space, and more will be needed if cracks allow the escape of the vapor. If honey is closely confined in small space I should say at a guess that a quart would be enough, perhaps less.

[2. We have investigated the matter and find that we can furnish bisulphide of carbon in pint (one-pound) cans, at 40 cents a pint, by express, not prepaid; 2 pint cans, for 75 cents. Address all orders to the office of the American Bee Journal.—EDITOR.]

A Queen Experience.

Desiring to Italianize my bees, I purchased 3 select-tested queens, and on receipt of them, June 26, removed the old queens and introduced the Italians by placing the cages over the frames of colonies 1 and 2, and started No. 3 by giving 2 frames of brood from No. 1, and one frame of honey from No. 2. No. 1 was a very strong colony of hybrids and had almost filled an "Ideal" extracting super at the time. July 4 I examined 3 colonies and found all three queens (how easy to find them compared with black ones). Nos. 2 and 3 had eggs and larvæ, but not No. 1; however, as the queen was there, I thought it was all right. July 12 I found my Italian queen missing in No. 1, and still no eggs and only a few capped brood. I looked over the frames carefully and found 2 small queen-cells, one opened naturally, and one torn open at the side. I did not know what to do, when,

after replacing all the frames, I found a bunch of bees on a piece of board on the ground, and on examination found a small, black queen, so small was she that I would never have found her among all the other bees. I removed her and sent for another queen at once, but as the breeder was out of his own queens I put in a frame of brood and eggs from No. 3, on July 16. Now this colony, No. 1, had been practically queenless for 21 days, up to July 16. Ten days later (the 26th), I found a big, yellow queen, one frame full of eggs, and some larvæ floating around in the milky food in several frames.

Now, then, isn't this a record-breaker for queen-rearing in 10 days time from brood to laying? and some of the brood from the new queen was surely several days old; it lay in the bottom of the cells curled up so as almost to complete the circle. What do you think of it? I clipped her wings at the same time. NEW YORK.

ANSWER.—Your supposition is that from brood given July 16 a queen was reared which July 26 had brood several days old. Suppose the larvæ were only two days old; then the queen must have laid the eggs five days earlier, July 21. That leaves five days from the starting of a queen-cell to the laying of eggs. You are most surely mistaken in your supposition. No queen could possibly be reared in five days from the starting of the cell, to say nothing of an interval between hatching and fecundation, and another interval between fecundation and laying. It is a week from the time the cell is sealed till the young queen emerges, and if the queen emerges five days after the starting of the cell, the cell must have been started two days after it was sealed! You will probably ask me where that nice, laying queen came from. I don't know, but there are more ways than one to account for her presence, one way being that she was the same queen that was introduced; for you saw her in the hive eight days after she was introduced; for if the bees would tolerate her for eight days they might have kept her along till after the rearing and rejecting of the little black queen. It is also possible that the black queen was an interloper from outside, and that the yellow queen was reared in that properly opened cell that you found July 12, the egg having been laid by the introduced queen when she was first introduced.

Bees Turning Black.

Can you explain the following (to me) funny happening? Our bees last year were all Italians but this year they are, except a couple of colonies, black. Now there has been no black queen given them. No. 1 had, last year, a beautiful Italian queen. She superseded last summer and now still has that queen, but all the bees have turned black. We had two swarms from three colonies, a beautiful swarm of Italians, and they have turned black. Nearly every colony in the yard has turned to blacks. Some are bright Italian and some are blackish, but they all came from Italian mothers of our own, and the bees turn black whether the queen is bright or dark. We got a couple of queens this year—bright, golden-colored ones—and their bees are black too. Our beautiful, large Italians, which every one admired, are slowly but surely getting smaller and blacker every day. Will you kindly explain this? ILLINOIS.

ANSWER.—If there were not internal evidences that your letter is from one of the gentler sex, I should be inclined to say, "My dear sir, you are quite mistaken in some of your views. Bees don't gradually become darker day by day. You must be more careful in your observations." But to get into controversey with a lady—never.

"I don't know why your bees have changed as they have," is the only answer I happen to have that will meet all the requirements of the case. I'll tell you, however, a little of my own experience, and then you may not feel that the bees are treating you so much worse than they do others.

Longer ago than you probably know anything about I got Italian blood, but I found it was changed to something a good deal darker, and in spite of obtaining from time to time yellow blood by means of imported Italians, I found a constant tendency toward black. At the same time there seems to be a tendency on the part of the queens toward lighter color, and I think there must be something in this climate that makes the queens lighter than in Italy. As long as I did not clip queens, there was a chance to be mistaken in some things. A certain colony would have an Italian queen and three-banded workers. In a year or two the workers would average very much darker, although the queen would be just as light as ever—prehaps a little lighter. As a matter of fact, there had been a change of queens, and the new queen having met a black drone, her progeny resembled blacks as much as Italians. When this queen was again superseded (remember that every queen as a rule is superseded), the workers were darker still, and so long as black drones were in the majority in the surrounding vicinity this blackening process went on. Only by constant weeding out of queens with darker workers could the bees be kept respectably yellow, and yet the vexatious thing about it was that some of the very best harvests were made by those colonies that lack somewhat in color, and to-day I am breeding from a queen that is not pure yellow, just because I want honey more than color.

So I can only give you the doubtful comfort of saying that you may expect a continuance of a tendency toward darker color in the future as in the past.

Fastening the Queen on Foundation.

In your first answer in the first column of page 475, you seem to think it noteworthy, if not strange, that "California" didn't make a success of fastening queens on foundation in lower stories.

Why, how can it seem even noteworthy? I don't see how anyone could make a success of it. I am quite sure (although I never tried it) that the poor things would soon die, whether in the lower or upper stories, and no matter whether you fastened them with glue, melted wax or pins, on foundation or combs.

Don't you think you should be careful how you try to induce bee-keepers to try such risky practices?

SKEPTIC.

ANSWER.—I do not for a moment suppose it would be a success to fasten queens on foundation either "with glue, melted wax or pins." Indeed, it is reasonable to believe that no queen fastened in such a way could live more than eight or ten years. But has "Skeptic" the right to assume that I had any of these plans in mind? Before he is too hasty in condemning a thing which he himself admits he has not tried, let him try fastening the queen by some humane plan. Has he ever tried fastening one with a string!

The Buffalo Convention Report is issued in pamphlet form, size 6x8½ inches, 80 pages and cover. Besides a full report of the proceedings of the 32d convention of the National Bee-Keepers' Association, held in Buffalo, N. Y., Sept. 10, 11 and 12, 1901, it contains fine half-tone portraits of all the officers and directors of the Association; also the Constitution, a list of the membership up to the end of 1901, and the two latest bee-songs—"The Hum of the Bees in the Apple-Tree Bloom" and "Buckwheat Cakes and Honey." We believe it is the finest ever gotten out for the Association. Of course, all members of the Association receive a copy free, but there are thousands of our readers who are not yet members, but who should have this valuable Report. Better send for a copy, if you have not yet received one. Price, postpaid, 25 cents, or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal. Better order soon, before all are gone.

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GENERAL ITEMS

Buying and Rearing Queens.

I was very much interested in Dr. Gallup's articles about queens, and have just read what Mr. Alley says, on page 519. I have bought queens from nearly every queen-breeder in the United States, and my experience has been that 9 of every 10 queens I have purchased are worthless, while 50 percent of the queens I rear myself under the swarming impulse are fully up to the standard. I bought 5 queens in 1901 of a Texas breeder who is now out of business, the bees from one of these having produced for me, this season, 200 pounds of surplus honey, while the other four have not produced a single pound.

I believe that all queen-breeders, regardless of the methods they follow, will produce some good queens, and I think it wrong to condemn them, but rather we should encourage them, for what improvements we have made we are indebted to them for the same.

M. D. ANDES.

Sullivan Co., Tenn., Aug. 15.

Bees Have Done Poorly.

My bees have done very poorly so far, as it has been raining the most of the time since spring opened; in fact, I had to feed all through June, there being only one day the bees got to work on basswood, and there was so much water on the trees that they could do but little that day. They have been doing fairly well since July 20. so I hope I will not have to feed them this winter.

I winter my bees in an open shed where they are protected from the east, west and north wind, and are perfectly dry and well packed in straw, so nothing is exposed but the front. I have never lost any, and when I unpacked them the last of March they were all rearing brood, and have kept strong all summer. I got only 3 swarms, and those by dividing. J. M. BUTLER.

Mercer Co., Ill., Aug. 10.

A Fairly Good Season.

This has been a fairly good honey season here, in North Idaho, and I think the honey crop will be very good. The season here is much shorter than in the Eastern States, owing to the cold rains late in the spring and early in the fall.

I started with 25 colonies last spring, and have increased to 70. Bees are filling supers with fine white clover honey.

The farmers here are seeding their farms to grasses to a great extent, such as red and white clover, alfalfa, etc., which makes fine pasturage for bees.

Is it a fact that bees do not gather honey after Aug. 10, to any extent, in any of the Eastern States, or, in fact, any part of the country? Do you know how much honey has been gathered by a colony of bees after that date? The statement has been made by a person

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here, that bees do not gather any honey to amount to anything after Aug. 10, in any part of the country.

J. A. WATKINS.

Latah Co., Idaho, Aug. 3.

[Where there is a fall flow of honey, the bees gather after Aug. 10. May be some one will answer as to the amount a colony has been known to gather after that date.—EDITOR.]

Not Getting Much Honey.

Bees are not gathering much honey this year—too dry and cool. My late buckwheat is blooming nicely. I hope the bees will do better this fall. I started with 26 colonies last spring, now have 44, and two swarms went to the woods. My bees gathered some honey in May. T. G. JONES.

Lyon Co., Ky., Aug. 16.

Small Crop of Honey.

I had to feed my bees the last half of June, when we had a sudden flow from basswood, which lasted but a few days. I have had only 5 or 6 swarms and a very small crop of honey. I am expecting a good flow this fall, as the weeds have grown very rank. We had so much rain that the farmers could not keep their fields as clean as usual. There is plenty of heartsease and all kinds of weeds. C. P. MCKINNON.

Hardin Co., Iowa, Aug. 11.

Bees Dying from Spraying.

On page 503, I noticed an article on "Bees dying from spraying when trees are in bloom."

Away back in 1884 or 1885 our State Pomologist, Mr. P. M. Auger, requested that some tests be made to prove whether the spraying of trees while in bloom would be harmful to the bees, or of no benefit to the fruit, saying he thought it harmful to both. A discussion of the subject followed at that meeting of the Connecticut Board of Agriculture. The result of it was, I was requested to use all precaution necessary and make tests that followed for 4 or 5 years, selecting isolated locations, and these were the results, unlike the report of Mr. C. H. Lake:

1. It did not always kill the bees: sometimes a part of the young died in larvæ; others were further advanced.

2. The poison could be traced in the nectar carried to the combs, so that it was unsafe from a mercantile view. It was not analyzed, but fed to flies, etc., and they were killed by it.

3. The bloom was very much injured by the spraying, which in several cases was the cause of the whole crop of fruit being spoiled.

The report of results was never published in full, for two reasons, viz: 1st, it might help to induce the smart unbelievers to do considerable damage to Nature's pollenizers; 2d, evil-disposed persons could use it as a means to ruin a crop of fruit, and be out of the reach of *detection*.

There is a class of citizens in every place that are the worst criminals on earth: they occupy good positions in society, in the church, and in all organizations. They have strong influence, and they know they own the earth but have not yet fenced it in, and

they are the vilest enemies to every occupation and citizen, but they are out of the reach of the law. The law punishes not for the act, but for getting caught, and they do not get caught. To illustrate by a fact:

A certain minister in my vicinity found out that kerosene kills vegetation, and proclaimed it broadly, "When an obnoxious plant is in my way, a ½-pint of kerosene oil puts it out of my way."

Not long afterward, various shrubs and plants began to die, that were offensive to various persons. They followed that minister's advice.

Another person finding that sweetened Paris-green water would kill flies and other insects, exposed it for that reason, and killed off 20 colonies of bees. Some time afterward it leaked out that, "I made up my mind those devilish bees had to be gotten rid of." The bees were the things aimed for, some of their honey was eaten and the eaters were made sick.

The law does not reach that class of people, but they are everywhere.

Spraying really does more harm, as a whole, than it does benefit. I have worked at it, and I have studied it closely for more than 20 years. It does some good, but that good is limited.

H. L. JEFFREY.

Litchfield Co., Conn., Aug. 13.

Bachelor Bee-Keepers.

On page 488, I notice the question, "Why so many bachelor bee-keepers?" Now as I rank with a few of the best men, and as there are only a few who do not take the fatal step in early life, there is no reason why there should be bachelor bee-keepers, for they are the sweetest men in all the world. And, then, again, they are so wonderfully "stuck-up." Perhaps that is why the ladies would always be excused.

Now, if there are any old maids who can throw any light on the subject, it would be gladly received and highly appreciated. C. E. STEVENS.

San Diego, Calif., Aug. 9.

Too Cold and Wet.

It has been too cold and wet this season for bees to store any surplus honey. Buckwheat is in full bloom here, but it does not appear to be yielding nectar in large quantities. I have 36 colonies of bees in Heddon hives.

Why do bees have a dislike to a certain color of hats? I never wear a veil, but I could not go through the apiary without getting stung, if I wore a neutral or mouse-colored hat. A large straw hat they do not mind.

SAMUEL HEATH.

Armstrong Co., Penn., Aug. 18.

(No one can tell *why* bees dislike dark colors, any more than any one can tell the why of many other things that exist. It has often been noticed that white or light colors are preferred by bees.—EDITOR.)

Honey-Supply Short.

The bees are working at present on sweet clover, red and white clover, heartsease and buckwheat. The honey supply here is very short and will not be enough for home consumption.

Up to date, my strongest colonies have filled two supers of 28 one-pound sections, while the weaker ones have done about half as well, and still some of the weakest colonies have not given any surplus, and I think June 1, 1903, will be time enough to put on supers for them. J. W. JOHNSON.

Stephenson Co., Ill., Aug. 11.

Light Crop—Too Cold.

The honey crop is very light; too cold. Bees are not making a living. Unless it gets warmer it will be necessary to feed for winter. C. M. TARR.

Wood Co., Wis., Aug. 9.

Light Crop of White Honey.

The present season will go on record as phenomenal, not only in the extreme rainfall, which has exceeded the recollection of the oldest inhabitant, but in the violence of its storms, which have caused washout after washout, rendering highways and railroads impassable at times. The aggregate rainfall in this place, according to the official report for the month of July, was 10.45 inches.

It is worthy of note, that "washout after washout" was not confined to highways and railroads, but has been most successful in removing the nectar from the blossoms, to the detriment of the honey-bee, and the consequently wretched impoverishment of the apiarist's pocketbook.

It is now a settled fact that no strain on the imagination is necessary to impress vividly the most casual observer that the apiarist's pocketbook, in this section at least, must this fall carry the impression of having either been unsuccessful in an attempt to "loop the loop," or of having been accidentally stepped on by the elephant, and no "baby elephant" at that.

We are sorry to have to report so light a crop of white honey; our buckwheat just commenced to produce nectar a few days ago. About 200 pounds of comb honey and 400 pounds of extracted will comprise our surplus from 66 colonies, present count; 47 spring count. We trust we will have a good flow of dark honey.

As a consolation to my fellow bee-keepers who are in the "same boat," and without any disrespect to the "Good Book," or the "sky pilots" who so earnestly and faithfully advocate its most excellent principles; neither do I wish to cast any reflection on the "gentler sex," for I ever have in mind that my mother is a woman. I would say, but you know it is on record that "a little nonsense now and then is appreciated by the wisest men." (Perhaps the quotation isn't verbatim). As a consolation to such poorly afflicted mankind (or it may be womankind), the story is told of a minister of the gospel, who, remembering the teachings of the Master, upon the sudden death of one of the oldest members of his parish, went immediately to offer his counsel and consolation to the newly-made widow in this her greatest bereavement.

"My dear madam," began the good man, "this is indeed a great affliction; but you know the Good Book teaches us that we must all some time go the way of all the earth, and that we should all be prepared, for we know not

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, JOHN THOEMING.

MONTHS	July and August.		
NUMBER OF QUEENS	1	6	12
HONEY QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00
GOLDEN QUEENS			
Untested	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	10.00

Select tested, $2.00. Breeders, $5.00 each.

2-frame Nucleus with Untested Queen, $2.25 each; 3-frame Nucleus with Untested Queen, $3.00 each; 6 for $2.75 each.

D. J. BLOCHER, Pearl City, Ill.

27Atf Please mention the Bee Journal

BOYS WE WANT WORKERS Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6.00
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Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.20	2 30	5.50	10.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.

144 & 146 Erie Street. - CHICAGO, ILL

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

"HOLD UP

your head and hear your sentence." Try one strip of PAGE 23-Bar, 58-Inch Poultry Fence.

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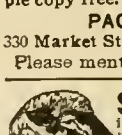

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100 Colonies of leather-colored and Golden Italians for sale in 9-frame hives, on Langstroth-Hoffmann standard frames. My leather-colors took first premium at the Minnesota State Fair last year. Delivery at any time before winter. Ample stores guaranteed: Singly, $5; in lots of 20, $4.50 each, on car.

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Do not put your money into **New Fangled Bee-Hives,** but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

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27 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 27 cents a pound—CASH—for best yellow, upon its receipt, or 29 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

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what hour we may be called in like manner."

"O, yes," she replied, "I don't know what I would do without the Good Book. There is one passage of scripture in particular that has been a great help to me through my present affliction."

"To what passage do you refer?" he asked, all attention at once as the subject of his daily study was mentioned.

"Well, now," replied the elderly matron, and the shadow of a smile appeared on her wrinkled features, at the fickleness of her memory, "I don't remember whether it is in Psalms or Proverbs, but I distinctly remember the passage."

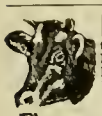
"Perhaps I could recall the passage, and prompt your memory as to its location, if you would kindly repeat it," he quickly made answer," as the deepest interest held him in rapt attention.

"Well," she replied to his request, as a hesitating uncertainty, plainly depicted on every feature, and in voice as well, seemed to take possession of her as she endeavored to recall the quotation verbatim to the learned man who stood before her. "The passage is, 'Grin and bear it.'"

Fellow bee-keepers, let us, without wavering, face the front, continue to take the "Old Reliable" American Bee Journal (which I have taken for nearly 19 years), study apiculture, look for a better season next year, and do not forget the old woman's quotation, whether it is in Psalms or Proverbs or not, but "Grin and bear it."

C. W. WILKINS.

Cortland Co., N.Y., Aug. 11.



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CLOSE SATURDAYS AT 1 P.M.—Our customers and friends will kindly remember that beginning with July 1, for three months we close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

BEES MASON JAR BARGAIN—$5.00 per gross for pints; $5.50 for quarts; $7.00 for ½-gal. Get my prices on gallon cans and tin-top tumblers.

WILTON WELLS, New Albany, Ind.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

33Atf Please mention the Bee Journal.

Wanted—Extracted HONEY Mail sample, and state style of package and price delivered in Chicago.

John F. Campbell, 53 River St., Chicago, Ill.

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Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

O. H. HYATT,

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 11.—Some comb honey produced in 1902 is now on sale. Fancy brings 15c; anything off in appearance or quality sells at 13@14c for white; amber grades, 2 and 3 cents per pound less. Extracted is selling at 6@7c for white; light amber, 5½@6c; dark, 5@5½c. There is a fair demand for all grades and kinds. Beeswax steady at 30c. R. A. BURNETT & Co.

KANSAS CITY, Aug. 16.—The receipts of comb honey are increasing; so is the demand. New fancy white comb, 14c; No. 1, 13c; No. 2 and amber, 12½@13c. Extracted, white, 6c; amber, 5@5½c. Beeswax, 22@25c.

C. C. CLEMONS & Co.

CINCINNATI, July 26.—Considsrable stock of 1901 crop fancy comb on the market and sells at 14@15c; there is a call for new comb honey, as yet none on the market; this market demands fancy comb; all other grades discourages trade. Extracted is in fair demand at 5½@6c for amber and 7@8c for clover. Beeswax, 28@30c. THE FRED W. MUTH Co.

ALBANY, N. Y., Aug. 22.—The demand for honey is improving with the unusual cool weather, the summer resorters returning home hungry. We quote: Extra white comb, 15@16c; medium, 14@15c. No other grades coming yet.

We want to caution shippers against shipping by express, as it arrives almost invariably broken. Express companies are stamping the cases "Received at owner's risk," which seems to cause their employes to "play ball" with it. Freight handlers are slower, more careful, and less broken, and much cheaper. We advise sending by freight only. H. R. WRIGHT.

NEW YORK, Aug. 11.—New crop comb honey from New York and Pennsylvania is beginning to arrive in limited quantities. There is a good demand for fancy white at 14c, and No. 1 at 13c, and exceptionally fine lots will possibly bring a little more. Lower grades quiet at from 10@12c. As to extracted honey, fancy grades are in good demand at from 6@6½c for white, and 5@5½c for light amber. Southern in barrels and half-barrels quiet at from 4½@60c per gallon, according to quality. Beeswax dull at from 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Aug. 19.—New comb honey is not coming in so plentiful, so far. Whatever has come in, and is fancy water-white, has brought a good price, and sold to stores from 15@16c. Honey kept over from last year, fancy sells for 14c. The market for extracted is more lively and brings—amber, from 5@5½c; alfalfa water-white, from 6@6½c; white clover, from 7@7½c. Beeswax, 30c. C. H. W. WEBER.

SAN FRANCISCO, Aug. 6—White comb, 13@14c; amber, 10@12c; dark, 8@9c. Extracted, white, 5¼@—; light amber, 5@—; amber, 4¾@—. Beeswax, good to choice, light 27@29c; dark, 25@26c.

There is not much honey offering from any quarter, and market is decidedly against buyers, particularly for choice to select comb, which is in fair request on local account. Extracted has to depend on shipping demand to a considerable extent, and to secure shipping orders prices have to be regulated by values current in other centers. While there is not much extracted offering, buyers have not so far shown disposition to take hold at any material advance on figures lately ruling.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.

21Atf Mention the American Bee Journal.

WE can place a few cars of COMB AND EXTRACTED HONEY. Will be glad to correspond with parties having some to offer. We also solicit local consignments.

C. C. CLEMONS & CO.,

29A9t 300 Grand Ave., KANSAS CITY, Mo.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no drip cases.

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CRATES OF TWO 60-lb. CANS, been used once, in good condition, in lots of 5 crates, 40c each; 10 or more, 35c. This lot is limited; order at once.

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A trial will convince you. Send for our catalog of BEE-SUPPLIES.

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PRICES:
for the remainder of this season:
1 Untested Queen .....$ .60
1 Tested Queen ..... .80
1 Select Tested Queen ... 1.00
1 Breeding Queen 1.50
1-Comb Nucleus, no queen 1.00
J. L. STRONG,
204 East Logan St., CLARINDA, IOWA.
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BY ISABELLE HORTON.
This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address,
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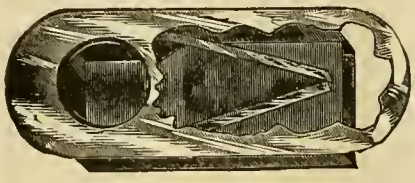
The Porter Spring Escape

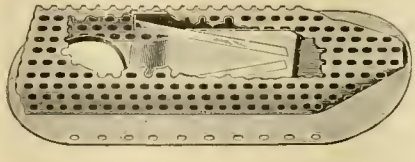
is a great labor-saver. Don't lift the heavy super, shake and brush the bees, cruelly smoke and cause uncapping, stings and robbing.



Use it, and make work a pleasure instead of a dread. Try it, and you won't be without it again. Price, 25 cents.

—THE—
Porter Honey-House Escape

clears the extracting-house of bees. The worst robber cannot return. One over each window and door will save you great



annoyance. If you tier up the supers to rid of bees this is the BEST of Escapes. Try it and you will wonder how you got along without it so long! Price, 25 cents. Address,

THE A. I. ROOT CO., Medina, Ohio.

Also for sale by all our branch houses and agencies, and all dealers in bee-keepers' supplies.

GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL.,
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., SEPT. 4, 1902.

FORTY-SECOND YEAR No. 36.

WEEKLY

Three Generations of Dadants.

C. P. Dadant. The Late Chas. Dadant. L. C. Dadant.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

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Prof. Cook's Bee-Keeper's Guide

Or, Manual of the Apiary.

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Prof. Cook has been one of the leading contributors to the American Bee Journal for a quarter of a century. He is well known to bee-keepers everywhere. He is an authority on bees and related subjects. His book has had a large sale, which now bids fair to increase greatly.

In order that every reader of the American Bee Journal, who does not already possess a copy of Prof. Cook's work, may have it, we wish to make the following

FOUR LIBERAL OFFERS:

No. 1.—For $1.75 we will mail the American Bee Journal one year and a copy of Prof. Cook's book.

No. 2.—Any one of our present subscribers whose subscription is now paid in advance, can have a copy of Prof. Cook's book mailed to him free as a premium for sending us two new subscribers to the American Bee Journal for a year (with $2.00.)

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No. 4.—For $1.00 we will send Prof. Cook's book by express or freight with other goods; or, if called for at our office, the price is $1.00. But the postpaid price of the book alone is $1.20.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., SEPT. 4, 1902. No. 36.

Editorial.

Comb Versus Extracted Honey.—The question is often asked by beginners, "Shall I produce comb or extracted honey?" The question is not one to be answered off-hand in a single word. The flora must be considered. Some kinds of honey, especially the darker and the stronger-flavored varieties, may find a ready market, even if not at a high figure, while the same honey in sections could hardly find sale at any price. The market must be considered. There are local preferences which can not be utterly ignored. Consumers in some localities may prefer extracted at the same price as comb. In other localities they will have none of it at any price.

The man must also be considered. One man has learned the trade of producing comb honey so as to make it more profitable, while another man in the same locality will make extracted more profitable. Perhaps the season should also be considered, although how is one to know in advance what the season is to be? If the season is unusually cool, the cool days, and especially the cool nights, will drive the bees out of the sections; and if honey be gathered in larger amount than necessary for the daily consumption of the colony it will be crowded into the brood-chamber, crowding out the queen; while with extracting-combs the honey would be stored above. As illustrating this, see the following editorial from the Rocky Mountain Bee Journal:

This is one of the seasons when it would have paid to run all of our apiaries for extracted honey. A fairly good crop might have been produced even if all new combs had to be built. In one of our out-apiaries are rigged about 25 colonies for extracted honey, with the design of supplying our home city market. Full-depth extracting-supers were given with frames containing half-sheets of wired foundation. In every instance these supers (they hold 10 frames) have been filled and are ready for extracting. Comb-honey colonies in the same apiary have not finished one super apiece. The honey in the extracting-supers is all sealed and will yield 45 pounds apiece. In the section-supers three or four rows of sections in the middle are finished. The balance are unsealed and only half built out. The season, of course, accounts for this vast difference. In the extracting-supers a large cluster of bees could form, and comb-building was not seriously interrupted during the cold days and nights that prevailed during the first flow. In the section-supers the comb-builders had to divide up into 25 little clusters, and these literally "froze out" during the aforesaid cold weather.

The Fourfold Bee-Hive.—Mr. A. W. Smith, of Sullivan Co., N. Y., wrote us as follows Aug. 11:

EDITOR YORK:—I answered an advertisement in the New York Herald, of a wonderful bee-hive, and received the enclosed letter, which I thought might interest you. I do not think it any improvement on the common hives in use in this country.

A. W. SMITH.

A very interesting document is the circular enclosed, which might be worth printing here but for its length. It is hard to see what there is patentable about the "specially-constructed fourfold bee-hive," and hard to see what advantage it can have, although the circular assures us its advantages "are so obvious that even the layman can grasp and comprehend them at a glance."

It seems that in this hive there is no separate compartment for honey, at least the author says "there is no separate honey-section in my hive," and adds:

"The reason why, after years of experience, I can not endorse the separate honey-section is that the bees, in the first place, fill up with honey the empty nooks around the queen, and only after there is no more space here at all, they carry the honey into the section separated from the queen; this, however, greatly harms the breed, for the great quantity forces down the queen-bee from the bee-breeding perches to such an extent that the family often degenerates or entirely declines by reason of too much honey."

Isn't that richness for you? Just what the "breeding perches" are is not explained, although the writer of the circular says:

"My experience has taught me that the bees perform their work most industriously, and readily in an undivided section in which the queen-bee can freely move from perch to perch to arouse the population to industry."

What would happen if the queen should fall off one of the perches as she goes on her rounds "to arouse the population to industry" is not stated.

Is it possible that a sufficient number of dupes can be found to pay for the expense of issuing and advertising such a circular?

A Bad Case of Stinging.—Not long ago Editor Root had a little controversy with the bees, which he reported in Gleanings in Bee-Culture. Another fracas with bees has occurred at the Home of the Honey-Bees—this time no laughing matter. A horse belonging to Mr. Harrington was standing unhitched in a field in which was an unfenced apiary, and the horse got among the bees.

Pretty soon the horse began to kick, and then a regular stampede ensued. The more the bees stung her the madder she became. She kicked two hives over, and, as if out of revenge, she would walk right up to a hive in front of her, and stamp one of her front hoofs right through it. She actually ran one foot right through one super of comb honey, down into the brood-nest, and, such a racket! Mr. Harrington arrived on the scene just in time to find the horse covered with bees and kicking everything in sight into smithereens. He managed to get her free, and started her for the open barn. He himself was literally covered with stings. He raked the bees out of his hair by the handfuls; and when he emerged from the yard there was scarcely a spot on his face or body that you could place a finger on without putting it on a sting; and the 'old mare'—well, she shared about the same fate.

Notwithstanding the dozens, and perhaps hundreds, of stings received, the curious part is that Mr. Harrington insists that after the first few stings the rest did not hurt, although he remembers feeling slightly sick.

As to the horse, Mr. Harrington treated it in the following manner:

He called for a pound of salt, and, in the meantime, proceeded to rake the bees off the horse. He wrapped the salt in a paper, and pushed paper and all down the horse's throat. She was beginning to swell, and it was evident she would die in a few minutes unless the salt would act, and something *did* act. Very soon the swelling began to ease up; the horse seemed easier, and, in the course of an hour, when given grain, she ate as if nothing had happened; and in two or three hours more she was driven home by Mr. Harrington, 2½ miles, in the very buggy in which she had been hitched, and from which she kicked herself clear. With some binding-wire the thills were made to hold together, and man, horse, and buggy went to town as usual.

Boxwood is spoken of very highly by S. E. Miller in the Progressive Bee-Keeper as a honey-yielder in Missouri. He has a fine lot of extracted honey from it, and says:

"June 10 is the date in my almanac for bees to commence on boxwood, but they commenced on June 9, and did good work on all favorable days until about the 20th. Little trees not over four inches in diameter—some of the same ones that I have husbanded in the past—were full of bloom, and the roaring of the busy bees in their tops was certainly good music to my ear."

There Are Other Fools, Too.—General Manager Secor sends us the following clipping, which originally appeared in the New York Sun:

THEY FOOL THE BUMBLE-BEE—HIS HIVE-LOVING COUSINS TICKLE HIM AND STEAL HIS HONEY.

The men who study insect life have found that the big, black and yellow humble-bee is often swindled of the results of his hard day's work at honey-gathering. The dapper little hive-bee knows how to play upon his weaknesses.

The hive-bee is a thoroughly city dweller, living in a bee-metropolis which has its bee-mechanics, builders and nurses, bee-boards of health that look after the ventilation of the city and the removal of the garbage—bee-policemen who guard the hive against moths

and other honey-thieves, with bee-queen to rule over all.

The clumsy, loud-buzzing bumble-bee, however, is a veritable farmer, and lives with a comparatively small family in his mud farm-house in the clover-fields. He is such a simple soul that the hive-bees look upon him as a hayseed.

Several of them will meet him when he is on his way home with a load of honey, and induce him to stop and have a chat in the bee-language. Then they pat him and rub him, and the bumble-bee loves to be tickled. Thus they work upon his good nature until he actually lets them take part of his bag of sweets—all of it sometimes.

When he has been robbed in this fashion the smart hive-bees bid him an affectionate good-by, acting just as if they were slapping him on the back, and probably telling him that he must come up to town and take dinner with them some day when he is not busy. Whoever knew a bumble-bee to have a day to himself?

Then the robbers go home and lay their plunder away, while the bumble-bee sets out for his farm-house, congratulating himself upon having such good friends, likely enough, and quite convinced that he is indeed a highly popular fellow.

Mr. Secor's only comment on the above was this: "I never caught them at it."

Weekly Budget.

Mr. and Mrs. Udo Toepperwein, of Texas, called at this office recently, when on their wedding tour. They were expecting to go East, and possibly get back to the Denver convention. We wish the happy couple a long and useful life.

The Lone Star Apiarist, of Texas, has suspended publication. This is unfortunate, especially for those who had their money invested in it. But it will be no surprise to those who know what it means to publish a bee-paper. There are a good many people who just know they can make a great success in the apicultural literature line—until they try it. Then they learn better. We are really sorry for our Texas friends, for they *deserved* success, at any rate.

Editor E. R. Root seems to inherit some of his father's rural tastes. The father has gone into the wilds of Michigan and built him a cabin in the woods two miles from the post-office, and now the son, restrained by business cares from getting so near to the heart of Nature, has moved his family out upon a farm 2½ miles from town, to get away from the smoke of factory and locomotives, and from the nerve-destroying shriek of whistles and clang of bells. He has an apiary on the farm where he can spend his evening hours.

The Death of Mr. Geo. F. Robbins we announced a week or two ago. He was in the employ of Mr. E. T. Flanagan, in Texas. Mr. Flanagan wrote us as follows, Aug. 23:

Friend York:—I have just returned from a trip to southern Texas, where I was called by a telegram announcing the sudden death of my manager, Geo. F. Robbins, formerly of Mechanicsburg, Ill. It was a sad blow for me, as I will find it hard to replace him, for it will be hard to find a more faithful or honest man than he was. Peculiar in some respects, even eccentric, he was faithful to a high standard of duty. Intelligent, well educated, keeping abreast with the advancement of his favorite pursuit, he was above all a sincere Christian gentleman. I respected and loved him as a friend and brother bee-keeper, and none will miss him more than I. Would there were more like him.

St. Clair Co., Ill. E. T. Flanagan.

Considerably Doubled-Up is what you might call Editor Hutchinson, of the Bee-Keepers' Review. Quite a good many years ago he was a double father all at once—a pair of twin girls came into the home. A year or so ago these same "twin girls" were married at the same time, so Mr. Hutchinson became a double father-in-law. And now—think of it!—one of these twin daughters has a little boy and the other a little girl, making Mr. H. a double grandpa. If he isn't a much-doubled-up man we don't know who is. "Grandpa Hutchinson!" Sounds old, doesn't it? But he says he "Never felt younger or more energetic."

Many happy returns, grandpa!

Mr. C. P. Dadant and youngest son, "Maurice," called on us last week when on their way home from Sturgeon Bay, Wis., where they had gone to settle up some business affairs of Mr. Dadant's father. It was the late Chas. Dadant's annual custom to spend a few weeks each autumn in Wisconsin, where he would be free from an attack of hay fever. One of his aged Iowa friends, also an octogenarian, who was always at Sturgeon Bay at the same time Father Dadant was there, when told of his death, decided to go there no more, as he would miss the companionship of Mr. Dadant too much to endure it. So this year he is going to the Pacific Coast for awhile. It only shows the strong friendships made by the late friend of bee-keepers.

Biographical.

1817 CHARLES DADANT. 1902

The news of the death of Charles Dadant came as a shock, notwithstanding the fact that at his advanced age it was a thing naturally to be expected. Many of those, however, who have enjoyed his youthful and vigorous style of writing were perhaps not aware that he was more than 85 years old at the time of his death, which occurred after a short illness, on July 16, 1902.

Charles Dadant was born at Vaux-Sous-Aubigny, in the golden hills of Burgundy, France, May 22, 1817. After his education in the college at Langres, he went into the mercantile business in that city, but ill-success induced him to remove to America. He settled in Hamilton, Ill., in 1863, and found a genial and profitable occupation in bee-culture, which, in his hands, yielded marvelous results. He soon became noted as one of the leading apiarists of the world.

In 1873 he made a trip to Italy to import the bees of that country to the United States on a large scale. Later he began the manufacture of comb foundation, which has helped to make his name known.

It is true, however, that of late he has not written much, his son, Camille P., having come to the front as a writer of distinction to take his place. Neither is it in this country that Charles Dadant is best known as a writer. It is in the French journals that he was most at home; for in them he could use his native tongue, and although it might not be suspected by those who were familiar with his writings in the American journals, he never became so familiar with the English language as to converse freely in it. That the movable-frame hives with improved methods of management are to-day so much in use among French-speaking people is in a very large measure due to the strong influence of Charles Dadant, an influence used in the face of the opposition of the French journal, l'Apiculteur, for a long time the leading French bee-journal.

When 46 years old, Mr. Dadant came to this country, intending to make a business of grape-growing, a business with which he was familiar from childhood, but within a year he became so interested in bees that although he continued to do something with grapes the bees became the leading object of his attention. Dadant & Son made themselves known as large producers of extracted honey, as importers of Italian queens, and especially as the largest manufacturers of comb foundation in the world until recent years.

In 1886 he revised and republished the book of "Langstroth on the Honey-Bee," which has been styled "the classic in bee-culture." This work was published almost simultaneously in America, France, and Russia. The three latest editions were printed at Keokuk, Iowa, near his home. His teachings spread over the world, and there is not a civilized country where his name is unknown to progressive bee-keepers.

Charles Dadant married, in 1847, Miss Gabrielle Parisot. Mr. Dadant had two daughters, one of whom is the wife of E. J. Baxter, of Hancock Co., Ill., and one son, C. P. Dadant, with whom he has been in partnership since 1874, and with whom he lived till his death.

Mr. Dadant was of a cheerful disposition, and made friends of all who knew him. He had none of the infirmities of old age, and his death was but the flickering out of a lamp that has entirely used up its fuel, a worthy ending to a useful life.

Those who have had the pleasure of an acquaintance with Mr. Dadant in his own home will testify to his genial and cordial spirit, a spirit which it is a pleasure to know has descended to the son.

A Tribute from Mrs. L. Harrison.

The death of Charles Dadant has brought to my mind many pleasant reminiscences of a visit there, after the closing of the national convention of apiarists, held at Keokuk, Iowa. Carriages had been provided, and invitations to delegates to visit the home and manufactory of comb foundation of Charles Dadant & Son. I accepted the invitation, and it has been a pleasant reminder ever since. After a pleasant drive of three miles, more or less, from the town of Hamilton, Ill., with congenial companions, we entered the grounds where there was a fine residence where three generations lived in harmony and love.

It is not every one who, having spent time,

thought, and money in establishing a new business, would, as it were, give it away to those who might come in competition with them, as they did. They had called together their workmen, and had every department in full operation from the melting of the wax to the finished product. It was noticeable how much thought had been expended to reach the goal of perfection in all the small details, with the least expenditure of time and strength.

The senior Mrs. Dadant spoke the French language only, which I could not comprehend. The wife of the son had a large family and a little child to care for, so Father Dadant was delegated to entertain me. I remained over night, and in the morning he offered me his arm and showed me through the grounds, going among the buildings first; these were all upon substantial stone foundations, quarried from their own land. The buildings were quite numerous, and so far apart that if one burned the others would not. One was corrugated iron for storing wax, and Mr. Dadant said "it paid its own insurance." One building was devoted to the vineyard, containing implements for its culture and spraying; presses and other paraphernalia for the manufacture of wine; a large cellar beneath containing hogsheads of the fruit of the vine.

I saw the stables and barn, in which I noticed that all bins for holding grain were lined with tin, preventing rats or mice from destroying their contents; a honey-house containing all the appurtenances of a model apiary and storage for barrels of extracted honey. I was shown the apiary with its large, 10-frame hives, and from there we went to the vineyard, with its vines neatly trained to wires, showing care and culture.

Mr. Dadant then said, "Now, you must see John's home." It was the colored man's, who spoke French. As we drew near the pleasant cottage, the loud barking of the dog proclaimed our arrival, and a bright-appearing colored woman opened the door with a child in her arms, and gave us welcome. She appeared so comfortable and happy, and her countenance beamed with gratitude as she said, "Mr. Dadant built our home for us."

On our return across the field Mr. Dadant said, "John is too kind-hearted; he spent his wages every month. I said, 'John, you will be getting old after awhile, and you must save something.' But John could not do it. So he agreed that I should pay him only part of his wages, and I could save the rest for him, and now he owns a home. I encouraged my French workmen in like manner, and now they have homes of their own; and when we have no work for them they cultivate their vines, and work their ground."

What a philanthropist! Taking such kindly interest in those he employed. Though "the place that once knew him knows him no more forever," his kind deeds and loving counsel will continue to bear fruit upon the stony bank of the Great Father of Waters. May we profit by his example.

MRS. L. HARRISON.

Extracts from the Bee-Keeping Press.

Gleanings in Bee-Culture, besides having a fine picture of Mr. Dadant, published a biographical sketch written by Dr. C. C. Miller, from which we take these paragraphs:

As briefly mentioned in Gleanings for July 15, the death of Mr. Charles Dadant occurred July 16. A brief illness of 36 hours preceded his death, fulfilling a wish often expressed by him that he might never become childish, nor linger a burden to himself and others. Few men have lived to pass the 85th milestone of life's journey retaining such vigor of mind and body.

When he reached America [in 1863] he knew not a word of the English language. He established himself on a small farm near Hamilton, and subscribed to Horace Greeley's paper, the New York Tribune, denying himself any French books or paper. In this way he found himself compelled to follow the events of the day by the use of a dictionary; and so great was his ability to learn, that, although then 46 years of age, within three years he knew English well enough to write articles for the American Bee Journal, then published in Washington, D. C. His articles on "How I Became an Apiculturist," published in Vols. III and IV of the paper for 1867–68, were eagerly read. In 1869 he undertook the task of lighting the routine of European bee-culture by writing for the French, Italian, and Swiss bee-keepers. In 1874 he published a small book, "Petit Cours d'Apiculture Pratique," in the French language.

Notwithstanding the clear and forceful manner of Mr. Dadant in writing English (although it never became easy for him to converse in that language), yet he wielded a pen of still greater power when writing in his native language; and the fact that the movable hive is to-day so much in use among French-speaking people is not a little due to the vigorous writings of Charles Dadant, the Dadant and the Dadant-Blatt hives being among the most common in France of movable-frame hives.

In this connection it is not out of place to say that his son, Camille P., bids fair to become, like his father, a power at long range, for he has lately begun to furnish monthly articles of ability and interest to that standard French bee-journal, the Revue Internationale.

In 1874 Mr. Dadant took into partnership with him his son, C. P. Dadant, and together

CHAS. DADANT IN 1873.

they increased their apiaries till they reached the number of 500 or more colonies. They harvested at different times crops of 40,000 to 45,000 pounds of honey. Later they went into the manufacture of comb foundation. In 1873 Mr. D. went to Italy for Italian bees, and became a most successful importer, having been the first to ascertain what was necessary to keep bees alive on such long journeys.

It is pleasant to know that the familiar firm name, Dadant & Son, is to be continued, the son becoming the senior, and the son's son, Louis C., the junior member.

C. C. MILLER.

Following the foregoing Editor Root had this foot-note:

Charles Dadant, almost the last representative of the Langstroth and Quinby generation, was probably the best-known bee-keeper of any man in the world, for his writings have been read in both hemispheres. Langstroth wielded a great influence in America; but perhaps there is no bee-keeper in all Europe whose hive and system were more fully adopted than those of our late departed friend. He was a vigorous writer in English; but, as Dr. Miller says, his pen wielded a still greater power when writing French.

I met him some ten years ago, and well do I remember the cordial welcome he extended, and how, as I got into the carriage to drive to town, the old gentleman, with the warmth of feeling so characteristic of the man toward those he loved, leaned forward and grasped my hand and hung to it. I had not at that time written much on bees, and he knew me only through my father; but from his manner I took it he loved me because I was a son of A. I. Root, for, indeed, he and my father were very warm friends.

Years ago Mr. Dadant imported queens from Italy. Like all imported queens these were leather-colored, and rather inferior-looking compared with the ordinary, yellow queens of the same race in this country. It was not long before Mr. Dadant was accused of sending out hybrids for imported. At that time my father came to the rescue by saying that, if Mr. Dadant wanted to send out hybrids, he would mail mismated Italian queens of a bright color rather than to send the dark-colored, genuine imported of Italy, which he did. This little act pleased Mr. Dadant, and I think he never forgot it.

Our business connection with the Dadants has always been of the pleasantest. Indeed, there are no better or more successful business men in our ranks than those same Frenchmen; and when they first advertised that every inch of their foundation would be equal to the samples, they lived up to the very letter of their guarantee.

I am not so sure but the death of Mr. Dadant will mean more to the bee-keepers of Europe than to those of America. Indeed, it is wonderful that he could wield such a mighty influence in modern apiculture at such "long range," and in a foreign country, even if it was his old fatherland.

It is gratifying to know that his son, Camille, is also able to influence, as did his much-respected father, at "long range."

E. R. ROOT.

FROM THE BEE-KEEPERS' REVIEW.

Chas. Dadant, at the advanced age of 85, passed away, after a short illness, on July 16. Forty years ago, when he came to this country from France, he was a poor man with a family, and no knowledge of our language. Notwithstanding these disadvantages, he and his son, C. P. Dadant, have built up a most prosperous business in the production of honey, and especially so in the manufacture of comb foundation. Not only have they done much towards the building up of bee-keeping in this country, but the mother country has not been forgotten—the name of Dadant being an authority in that sunny clime.

FROM THE CANADIAN BEE JOURNAL.

The bee-keeping world will learn with regret of the death of Mr. Charles Dadant, of Hamilton, Ill., on July 16, after a brief illness. Mr. Dadant was deservedly considered one of the fathers of American bee-keeping, and in his death the industry has lost one of its most faithful and devoted followers, and who, apart from his connection with the revisions and translations of that magnificent work, "The Hive and Honey-Bee," by L. L. Langstroth, has done much for its highest advancement.

FROM THE MODERN FARMER AND BUSY BEE.

The Modern Farmer and Busy Bee speaks thus of Mr. Dadant, through its editor, Emerson T. Abbott:

We are pained to be compelled to announce the death of one of our prominent bee-keepers and staunch friends, the senior member of the firm of Chas. Dadant & Son. Mr. Dadant was born in 1817, and died July 16, 1902, being in his 85th year. He was born in France, and educated in the language of his nativity. He never acquired an easy use of the English language in conversation, but, notwithstanding this, he was a very interesting conversationalist. He has been identified with the bee-keeping industry for more than a quarter

of a century, and we are probably safe in saying that his name is known wherever a colony of bees is kept.

He was a man of that high type of character with whom it is a pleasure to associate, and after whom no one can read without being benefited. His home life was ideal, and he was revered and loved by those who knew him best. The writer has found a hearty welcome in a great many homes, but in no home has he felt more at home than during his visits at the home of the Dadants. "Father Dadant," as we were wont to call him, was a capital host, and while he made no pretentions to being a religionist of any kind, we have no hesitancy in saying that his outward life was that of an ideal Christian. It will be a long time before the bee-keepers pay the debt of gratitude which they owe to this venerable patriarch in the industry. He lived an excellent life, and at a ripe old age, without a lingering illness, no doubt died an ideal death. He has left us for something higher and better, we trust, but his work will remain to bless the untold generations yet unborn.

C. P. Dadant has been associated with his father in the comb foundation business from the start, and his son will now join him, and the firm name will be continued.

We shall miss the pleasant welcome of Father Dadant, and the interesting articles from his pen, but there will be no change in the policy of the firm so far as the quality of their goods is concerned. We have done business with them nearly 20 years, and during all that time, if we have ever differed on a business deal to the amount of a nickel, we have not known it. To us, the word of a Dadant was always as good as a bond, and this has been true, because the goods have always been delivered according to the stipulation in the bond. The family has our profound sympathy in this, their hour of bereavement, and the best we can possibly wish them is that their lives may be like the life of the friend and father who has gone out of their sight for the time being.

Convention Proceedings.

Report of the Texas State Convention, Held at College Station, July 16 and 17, 1902.

BY LOUIS SCHOLL, SEC.

(Continued from page 550).

The subjects regularly upon the program were taken up, and Prof. Wilmon Newell spoke as follows, on

The Preparation of an Apiary for a Honey-Flow.

This is a subject that is closely coupled with that of producing surplus honey, and together with the latter subject has received its full share of discussion in the bee books and periodicals.

The entire subject under present conditions is more adapted to a careful and full discussion by all, rather than a treatment by any one person. What I will have to say will be composed solely of facts and principles that are familiar to up-to-date bee-keepers, and therefore not of paramount interest.

I have nothing new to introduce, and shall only endeavor to review briefly those methods of operation that have been found essential to the proper handling of a honey-flow. On the other hand, it is to be expected that the experience of many bee-keepers, in various localities and under varying conditions, will bring to light many new ideas and methods of manipulation. For this reason I shall attempt no more than to introduce the subject, for the full discussion of which I feel sure will follow, and which, I hope, will bring to light many valuable points, that, at least to many of us, will be new.

HOW BEST TO PREPARE FOR A HONEY-FLOW.

The proper time to begin preparation for a honey-flow is the year before. All partially-filled sections, if we are producing comb honey, and all empty combs, if we are running for extracted honey, cannot be made better use of than by saving for use as "baits" the following season. For this purpose they should be placed in a tight super or hive-body and kept absolutely protected from mice, wax-moths, ants, and all manner of insects. It is also needless to say that they should be kept in a fairly dry room, where they cannot freeze. Many bee-keepers assert that these baits are worth their weight in gold; and, while I believe I would prefer the gold, they are at least worth more for coaxing the bees up into the super, at the beginning of the honey season, than could be realized from them if converted into wax and extracted honey.

At the approach of the honey season, there are three points to which I would call special attention:

The first is the gathering together of all tools and implements, getting the tools sharp and clean, and getting every thing into its place, where you can instantly put your hands on it when wanted. Of course in all well-regulated apiaries there is a place for everything, and everything in its place, but, alas, we are all human, and, once in awhile, or perhaps twice in awhile, tools are mislaid. This is likely to entail a waste of time and labor in hunting for them when most needed, and when strictly, as well as literally, time is money, to say nothing of the fact that it is liable to be conducive to language very unbecoming to even a Texas bee-keeper.

In addition to this, a sufficient supply of supers, extracting frames, hive-bodies, etc., should be nailed up and painted. If using sections, the supers should be filled with their proper number of fences or separators, and if the honey season is not too far distant, the sections folded, comb foundation inserted, and all made for immediate transfer to the hives. I would not advise the placing of foundation in frames or sections more than a month previous to use, as it does not retain its form and freshness as well as when kept in the original boxes, to say nothing of the exposure to insect pests.

The second point to which I would call attention, and which, above all others, is of the most importance, is that of having strong, hustling colonies at the beginning of the honey-flow. It has been repeatedly demonstrated that unless a full force of bees is present little or no work will be done in the supers. To attain this result best the colonies should go into winter quarters with plenty of stores and bees in each hive. As soon as possible in the spring, the colonies should be examined, and any that are weak should be stimulated by feeding. In localities where a reasonably good honey-flow is expected there is absolutely no question as to the profitableness of feeding. Only a small amount of cane-sugar is necessary, when fed daily, to stimulate brood-rearing.

During the forepart of June we conducted some experiments in the College apiary to determine the amount of sugar necessary to stimulate. At this time there was little if any honey coming in, and as a result of the shortage all queens had ceased laying. Both neuclei and full colonies were fed an average of 3 ounces of sugar per day, made, of course, in the form of syrup. Within a week the bees were rapidly building comb, and all queens laying. We bought sugar at this time at the rate of 15 pounds for a dollar, or 6⅔ cents per pound, making the cost of feed per colony 1¼ cents. Of course, earlier in the spring a larger amount would be necessary, owing to the increased consumption needed to maintain the temperature of the hive. It seems likely, though, that even then stimulative feeds should not cost on an average of more than 2½ to 3 cents per feed for each colony.

The importance of thus feeding in order to have a strong force of bees at the beginning of the honey-flow, is readily seen when one realizes that approximately ten thousand bees are required to do the household work in an ordinary-sized hive. Suppose a colony to contain 40,000 bees, 30,000 of these will be field-workers—really the number which will be gathering surplus honey. On the other hand, suppose these 40,000 bees to be divided into two colonies of 20,000 each. In each hive will be required, as before, 10,000 bees for interior or household work, leaving but 10,000 field-workers to each colony, or 20,000 in all, as compared to 30,000 in the former case. The bee-keeper cannot afford to have weak colonies at the opening of the honey season, as a large part of the season at least will be required to build them up to a profitable working strength.

As a third important point, queens which are prolific should be used in all colonies; and while it may not be advisable to supersede poor layers during the honey-flow, this point should not be neglected, and as soon as a poor layer is found she should be replaced by a queen at as early a date as possible. WILMON NEWELL.

In the discussion that followed, questions were asked as to which feeder was best adapted for this feeding. Of the different kinds used in the College apiary the division-board feeder, or "Doolittle Feeder," was found to be the best.

The required amount of syrup for feeding was discussed,

as some did not think the amounts as given by Mr. Newell would be sufficient after several weeks, on account of the increased number of bees that would then be hatching. The answer was that at about that time the amount would have to be increased, but in the case of the experiment at the College apiary a light honey-flow came on at this time, which increased the food-supply sufficiently to make further stimulative feeding unnecessary.

BUILDING UP NUCLEI BY STIMULATIVE FEEDING.

Relative to the building up of nuclei by stimulative feeding, and having combs built out, the question was asked:

"Where is the proper place in the hive to put the full sheets of foundation to have them built out?"

The replies developed that this requires some good judgment and care. When adding a frame filled with foundation, this should be placed next to the last frame containing brood, or, in other words, on the outside of the brood-nest, to have it well-built out. It should not be placed in the middle of the brood-nest as many are prone to do, as such does very disastrous work at times. When honey comes in very sparingly, and this is not drawn out, the queen is very likely to use only the set of combs on one side of this sheet of foundation, neglecting entirely the combs on the other side. Then, again, when honey is coming in plentifully, these combs are generally drawn out fast enough, but filled with honey before the queen has a chance to deposit any eggs in them. Then the same condition prevails as before: One side of the hive is neglected, the combs on that side are filled with honey, and the colony is in a cramped condition. The queen is restricted to but half of the combs, and as a result there is a decreased amount of brood, and finally a weak colony.

When putting in foundation be careful. Put it outside the brood-nest, next to the brood, with the combs of honey (if there are any) on the outside of this, and then, when the foundation is drawn out sufficiently, place in the middle of the brood-nest, *between combs of hatching brood*, for the use of the queen when she makes her next round.

Next a discussion on adding frames of foundation to full colonies, and in the spring, was also had. There is great danger when cutting the brood-nest, at this time, into two parts, as the bees are likely to neglect the queenless half or side on cool nights and during cool weather. This often results in a great loss of brood. It is better to give frames on the outside of the brood-nest, and then one need not lie awake on cool nights, during a cold, backward spring, and wonder if any brood is suffering, to entail a heavy loss for him later on.

Weak colonies and nuclei should have the brood placed next to one side of the hive, the west or sunny side being best, and then the other frames added towards the middle or other side of hive.

(Continued next week.)

Contributed Articles.

No. 8.—Bee-Keeping for Women.

Dangers of Starvation—What and How to Feed.

BY EMMA M. WILSON.

One of the dangers that a beginner needs to guard against is the danger of starvation. She may think her bees bountifully supplied with stores in the early spring, and indeed they may have been, but she is not aware of the large quantity of honey needed to keep up the amount of brood-rearing that is necessary for the welfare of her colonies.

Perhaps the first intimation she has that anything is wrong, she notices the remains of larvæ dragged out of the hive, the juices all sucked out of them—nothing but the white skins left. She is very much alarmed, and wonders what disease has appeared among her bees, when the simple truth is, her bees are starving. If you should tell her so, she would be very sure you did not know what you were talking about. Starving, indeed! didn't she know that her bees had plenty of stores when she examined them only two or three weeks before? She has very little idea of the amount of stores needed for brood-rearing. She has not taken into account the number of wet or chilly days when the bees were not able to gather any. Brood-rearing must go on just the same, and an extra amount of stores is consumed at such times in order to keep up the heat.

A good bee-keeper tries in every way to encourage brood-rearing in the spring, in order that the colonies may be as strong as possible and ready for the harvest when it comes. There can be no brood-rearing without the consumption of stores. Not only must the bees have enough stores for immediate needs, but they seem to look ahead and do better work if they have quite a surplus on hand. If the bees are allowed to come to actual starvation the danger is much greater, for not only is brood-rearing stopped, but much of the brood already started is destroyed. In this condition of affairs it pays to feed.

How shall we feed? By giving the bees combs of sealed honey, if you have them to give. There is no better way of feeding than this, but, unfortunately, we so seldom have enough of these combs. The next best thing is the feeder and the best granulated sugar.

I know of no better feeder than the Miller. With this feeder it is a very quick and easy job to feed. You can put the feeder on the hive, put in the dry sugar, making a little depression in the center, and then add a very little water (either cold or hot can be used, much depends upon the weather which is best; if it is cool, better use hot); let it soak through slowly, so that the first that goes through will be sweet enough for the bees to take readily; after that add the water as you please. You need not be very particular about the quantity of water used. If only a small quantity of sugar is used, use about the same quantity of water. If a large quantity of sugar is used, add as much water as you can conveniently, and more water can be added from time to time as the sugar gets dry.

Another way is to dissolve the sugar with hot or cold water, and pour the syrup into the feeder.

But you may have no feeder, and may not be able to wait to get one. Then the crock-and-plate feeder will do. Put into the crock equal parts of sugar and water, stirring until dissolved. Put over the crock one thickness of woolen cloth, or five thicknesses of cheese-cloth. Put the plate upon the crock, bottom side up. With one hand under the crock and one hand over the plate, quickly turn the whole thing upside down. Place it on the top of the brood-frames and put an empty hive-body over it. Cover it up bee-tight, so that no bees can get to it only as they come up through the brood-frames.

If there are no neighbors' bees near you that you are afraid of feeding, you can feed out-of-doors just as well, setting the feeder a few rods away from the hives.

Do not imagine that the only time that your bees are in danger of starving is in the spring. It sometimes happens that in the very height of the season, even when bloom is very abundant, because of a prolonged cold, wet spell, or some other condition of the weather, there is no nectar coming in, and unless you are on the alert the first thing you know your bees are dragging out their brood.

This year we had to feed our bees all through the month of June, and that with abundance of white clover in bloom all the time. Not a very encouraging prospect. Still, the bees must be fed. I must say I never realized before how much honey it took for their own consumption. It was a big relief, I can tell you, that the weather changed the first of July, and we had about ten days of very good weather, just at the time, too, that the bees had full benefit of the little basswood we have. They filled up their brood-chambers so that we have not had to feed up to the last of July, but I don't know how soon we may have to, if this wet weather continues.

Whatever you do, don't let your bees starve. See to it that they have at least two or three weeks' rations in advance. You may be sure if they have more than they need they will not waste it.

McHenry Co., Ill.

Necessity of Legislation Against Bee-Diseases

BY N. E. FRANCE,

State Inspector of Apiaries for Wisconsin.

FRIEND YORK:—I thank you for the editorial on page 531, on "Legislation Against Foul Brood." I find that bee-keepers are like other people—*selfish*—and seem to care little for others in general. Unless they are in some way in danger of their bees getting disease they seem to care

little about law or for others. Several times I have noticed the indifference of some good bee-keepers about diseases of bees, saying their bees and that part of the country had nothing of the kind; but when I showed them pictures I took only a few miles from them—of apiaries once profitable, 200 colonies reduced to 5, and another of 90 reduced to 1, and also diseased combs lying around on the grass—how anxious they were then to know what the *law* was, and whether the disease is endangering their bees.

Had it not been for importing foul brood into Wisconsin from other States, I could have had our State free of the trouble some time ago.

Each State can have just such laws on diseases of bees as its bee-keepers want, and will have them as soon as its bee-keepers will *together* ask for the same.

Now, the United States Census Report on bee-keeping in United States is to be had. I know the above to be true. I long for the day when every State will have legislation on diseases of bees, and no more importing of the same from other countries, or from one State to another. Foul brood and other diseases are not half as hard to handle as the behind-the-times bee-keeper.

Every State should have an experiment apiary conducted by a bee-keeper, said bee-keeper to be chosen by its State bee-keepers' association, and to conduct such experimental work as directed by said association. I hope to see such a day. Then bee-keeping will advance and be of great value.

Grant Co., Wis.

Evolution in Bees—"Nature and Nurture."

BY PROF. A. J. COOK.

I read with great pleasure the interesting article from Mr. L. Stachelhausen, on page 422. I always do read his articles with great interest. He knows a whole lot, and I usually find myself in hearty accord with his pen-strokes.

This matter of development in the bees has puzzled many abler than Mr. Stachelhausen or I. Even the great Darwin was staggered to harmonize fully his great discovery with our bees. Yet to me there seems no very great puzzle, nor any serious conflict with the laws of breeding or of transmission. Let us see:

In all organisms parents, either through some inherent tendency, as taught by Darwin, or more probably influenced by environment, are ever producing offspring varying from each other, which shows that it is more from "nurture than Nature." Thus while all parents tend surely to transmit their own peculiarities to their progeny—that is, all offspring tend surely to inherit the peculiarities—there is always as surely a like tendency to variation. And it is these two tendencies, coupled with "survival of the fittest," that has guided and controlled in all the developmental life-history of the World's evolution.

Let me make the case or example concrete. A man sires children. He gives to them strong characteristics, to all of them. One is to transmit to his possible children these same prominent traits. Let us suppose this is a very united family, and always works together for the common good—like the apostles of old, "have all things in common." Suppose there are two children. One marries and is happy in a family, which he is able to surround with the best environment, and is wise to give or withhold as the best needs of his children suggest. The other does not marry, is not encumbered with family cares, and thus shares the productive resources of his fruitful labors with his less thrifty but more fortunate brother. Who can surely say but that this is not better for the world, in scattering more broadly the grand, sterling characteristics of this family than though both had offspring? A good motto for college classes is, "Not how much, but how well." Here the bachelor brother supplies means for the best possible nurture that the benedict has leisure and opportunity to give it. More children less well equipped would surely not be a richer gift to the world. One unique, like a Gladstone, a Beecher, or a Washington, is worth scores of those who never touch their kind to bless and help. If, as I fear, the neglect of busy fathers sends fine, promising boys to the slums, then surely means to banish this neglect would be beneficent.

Could we say that the bachelor brother did nothing to elevate the future in his failure to leave children? Did he not help to a development which carried grandly his own very characteristics also, rich in the blood of his brother, into the life and work of the world? To doubt this is to doubt the grand work of nurture in the world's progression. If, as seems likely, the whole work of sex-determination is dependent upon nourishment, who shall say that such division of labor as suggested here is not most influential in organic evolution?

If division of labor is the strongest factor in economic advancement, why, then, may not such division of labor as just suggested prove most potential in the best and most rapid development?

Do not all see at once the application of this example to our bees? Here, through varying the food, the bees develop a numerous "bachelor class"—the workers—which may never transmit their characteristics—for they shall never know descendants; but they may store such rich harvests of the best food, may prepare a food regimen so superexcellent that their own mother and fertile sisters shall the better transmit surely and generously all the good qualities which they bear and share. This mother-queen had the power to transmit them, else they would not possess them. She will hand her peculiarities as surely to her fertile daughters, and more richly because of their exceptional ministries.

Again, suppose, because of an exceptional environment, she produces workers of exceptional excellence. The exceptional environment may have come through better care and attention from her own sterile daughters. She will not only produce there excellent workers, but she will give to their fertile sisters, her own power—perhaps magnified—to produce also improved workers.

Thus the fact of sterile females is no bar to the work of development through "natural selection"—nay, may be its best aid. The fact is that differentiation has nowhere been so varied and marked, both anatomically and pysiologically as in the honey-bees, and no less wonderful work of the queen in laying nearly double her own weight of eggs each day. To appreciate this latter we have only to fancy a Brahma hen laying some 15 pounds of eggs a day, or a Jersey cow producing milk that would furnish us say 1,500 pounds of the best Jersey butter.

Los Angeles Co., Calif.

The Causes of Swarming—Its Prevention.

BY C. P. DADANT.

I notice the quotation, on page 499, of Dr. Miller's statement in regard to the prevention of swarming. I wish to make some remarks about it, and as the paragraph I wish to quote is quite short, it is perhaps as well to repeat it here. Dr. Miller says:

> "One way to prevent swarming is to get the bees to rear a young queen about swarming-time. Giving a young queen reared elsewhere won't answer. I had a swarm issue with a young queen that I had given not a week before, she having just begun to lay, but when a colony has itself reared a young queen, and that queen has begun to lay, I never knew or heard of such a colony swarming till the next year. Gravenhorst gave this as reliable without being able to explain why the young queen must be reared in the hive itself."

My experience tallies exactly with that of Dr. Miller, but the difficulty is to rear a young queen in a colony just at swarming-time, and get her to lay before the bees swarm. My experience is that when a populous colony is made to rear queens during the swarming season it will swarm with the first queen hatched, more readily than if it had not been caused to rear queens at all. If, however, the first queen can be brought to lay, the other queen-cells have all been destroyed, the swarming fever is over, and the interruption in the laying between the taking away of the old queen and the laying of the new one—making a period of some 20 to 25 days—is sufficient to deter the bees from swarming. After the young queen has begun to lay, the season is already far advanced. But a young queen has this particularity: If she is healthy, she lays drone-eggs very sparingly. My father held that a queen preferred laying worker-eggs whenever she was not tired by incessant laying, and according to his views the young queen avoids laying in drone-cells simply because she feels vigorous. The drones when numerous are a great incentive to swarming. I might say, perhaps, that they are the greatest incentive of all when circumstances are favorable. So if the hive has few drones the swarming will be less frequent. Open a hive that has just swarmed, and in nine cases out of ten, you will find a great many drones. They are noisy, they are in the way, they make the workers more or less uncomfortable, hence the swarming.

When we give the bees a young queen just at the time

of swarming, they usually notice the change from their own queen to a stranger. Ordinarily they accept the intruder, but in many instances it is only a temporary acceptance. I have seen this many times, when we used to import queens from Italy by the hundreds and introduced them in full colonies. Often the bees would accept them quietly, but would also quietly go to work rearing queen-cells with the intention of getting rid of the stranger at the first opportunity. At any rate that is what I thought was their purpose, for I have many times seen the bees rear queen-cells in a hive where a new queen had been introduced. As a matter of course, if this happens during the swarming-time, there are ten chances to one that the bees will swarm out with the queen instead of killing her. The bees have almost become reconciled to her and they are reluctant to hurt her. So out goes the swarm. That is why, as Dr. Miller says, a young queen may go out with a swarm from a colony to which she had been given not a week before.

In our efforts at domesticating the bees and making them bend to our will, we must put up with their natural tendencies. If our work does not contravene with their native instinct we will succeed, but there will probably always be some difficulties which we cannot overcome. Thus the very requirement to prevent swarming—the rearing of a young queen in the hive at the proper time—will be our undoing, if the bees conclude that the hive is too crowded at the time when the young queens hatch.

I would like to suggest to those who wish to avoid natural swarming, to rely mainly on good, young, prolific queens of the previous year's rearing, for two reasons: The first is, that the removal of the old queen and the rearing of a young one at the opening of the harvest is sure to result in a weakening of the colony by the interregum of the greater part of a month, during which no eggs will be laid. The second is, the difficulty of preventing the swarm from issuing with the first queen hatched. It is true that the cells may be removed, all but one, but in a populous colony it is quite a task to make sure of all the queen-cells, and this would be practicable only in small apiaries, as it would entail a great deal of labor.

When all the conditions have been as favorable as possible to the comfort of the bees—shade, ventilation, and storing space amply provided, the production of drones reduced within the smallest possible limit—we find that there is but one very strenuous cause of swarming, and that is the supersedure of an old queen by her bees. As the laying has been long protracted, the queen begins to show signs of weakening, or of decrease in her laying, and the bees build queen-cells in the prevision of her decrepitude. Should the queen retain enough vigor, as she often does, to resent this treatment, an excitement is produced, and swarming results, even though the other conditions may be satisfactory. So it is very certain that the older the queens are, the more probability there is of swarms.

Hancock Co., Ill.

The "Missing Link" in Queen-Rearing.

BY G. M. DOOLITTLE.

It was with more than usual interest that I read the articles on "Rearing Long-Lived Queens and Bees," by Dr. E. Gallup. And why? Because Dr. Gallup was about the only *personal* teacher I ever had in bee-keeping. Under date of the earlier 70's, I have a stack of letters nearly three inches thick, which the then Elisha Gallup wrote me, giving me the minutest instructions how to proceed along the different lines in bee-keeping I asked him about; and I have kept these letters all these years as a sweet memento of the man who had so much patience with a beginner in the mysteries of apiculture.

Brother Gallup and myself have aged nearly, or quite, 30 years since then, but I see by these articles on queen-rearing of his that he is quite as young on this theme as he was at the time he wrote me that "*Good, long-lived queens* come only from cells in which there was a *lump of royal jelly left* after the queen had emerged from the cell." And that was 29 years ago. He was so emphatic in this matter, and made it so plain to me, that I soon discovered why I had so many queens lying dead at the entrance of their hives the spring before, for I had been rearing them on "the nucleus plan" recommended by some of the "leading lights" in queen-rearing of those days.

The next year found me rearing all my queens by natural swarming, coaxing colonies to swarm both early and late in the season, that I might rear the more while the bees were under this magic of swarming. This I continued to do till into the early 80's, when I discovered a colony having two laying queens in it mother and daughter. These two queens just filled that hive from end to end, and from bottom to top, with brood in May and June, and when the basswood bloom came on their workers filled the supers with honey equal to the way the hive had been filled with brood. The old queen died during the honey-flow. But the young queen lived to be nearly six years old, doing the best of work for five years.

This turned my head from queens reared by natural swarming to queens reared where two laying queens were tolerated in the hive at the same time, and the next time I found such a case—which was some two or three years later—I took away the young queen as soon as she commenced to lay, and then cut out mature queen-cells as fast as the bees built them. In this way I secured the finest lot of queens I ever had known before, and, later in the season, after I had discovered the "cell-cup" plan, I gave this colony a frame of prepared cups, which they accepted at once, and turned out from them as fine a lot of queens as I ever saw, every one of which was long-lived, and of the best quality. And each of these cells had a lump of royal jelly left in them, just as Elisha Gallup said there would be where good queens were reared.

From this sprung the plan as given in "Scientific Queen-Rearing," from which I have reared many queens that have given splendid service for four, five, and, in a few instances, well into the sixth year. And I wish to say to my indulgent teacher of the "gone-by" years, that in nearly every instance where I have cut open cells I have found that "missing link" present—that which Dr. Gallup pleases to term "an umbilical cord." I had noticed this cord many times in years gone by, when, in instances where I had more ripe cells than I needed for use, I would cut them open and critically examine the embryo queen to see in just what stage of development she was. And this cord has often been so strong that it would hold the queen-embryo suspended to the cell after I had rolled her out in my hand, or partially so, as far as the cord would allow, when it would take quite a little force to break it.

Since the Doctor wrote his articles I have examined more closely into this matter, and every cell which I could spare since has been carefully opened, only to find in each case the tendrils he speaks of, as they run from this cord up the inside of the base to ths wax cell-cups, and all under and through the royal jelly in every conceivable direction. Therefore, according to my old teacher, the "missing link"—that which will produce the best of queens—is supplied in nearly every instance when using the plan of queen-rearing as given in "Scientific Queen-Rearing."

And this *best of queens* is as hundreds, if not thousands, have found it to be when using that plan, for I have hundreds of testimonials telling me that those using this plan now produce queens of far greater value than they were ever able to produce before using the same. And these hundreds and thousands can only smile a quiet, contented smile when told by Mr. Alley that queens so reared are "as worthless as so many house-flies." "The proof of the pudding is in the eating," and after having tasted of a really first-class article, none care to go back to the "makeshifts" of the past.

To say that "a colony of bees will not rear good queens while there is a fertile queen present," shows the fallacy of many of the other statements and assertions made by the writer, for a moment's reflection will convince any thinking, reasonable person that 99 out of every 100 queens were so reared prior to the Nineteenth Century, queens which brought our bees down to us in as perfect condition as they were when the Creator pronounced them as "*good*."

And lest some may think that I have an "ax to grind" in this matter, I wish to say that I am in no financial way interested in "Scientific Queen-Rearing." The same is the property of the publishers of the American Bee Journal, to use and to do with as they please.

Onondaga Co., N. Y.

[The price of Doolittle's "Scientific Queen-Rearing" is $1.00 bound in cloth; or with the American Bee Journal one year—both for $1.60. Bound in leatherette, price 60 cents, or with the Journal a year—both for $1.30. Order from this office.—EDITOR.]

The Premiums offered this week are well worth working for. Look at them.

"Quoting the Honey Market" Again.

BY "RIP VAN WINKLE."

I have read the comments of the honey-buyers and commission men made in answer to the Editor's request to "give me what I am after," etc., and I see no reason to change my position on the subject as given in my article, that is, that the honey-producers of this locality ought to have an organization for the protection of their interest in such matters. And the general conclusion I arrive at, after reading all the replies is, that all practically admit that the market has been misquoted, most of the articles being devoted to *explaining the reason why*.

And now allow me to examine some of the statements. The Editor says that it is better to l—, no. He says, "It is better to quote a cent lower rather than a cent above the market." So it is (for the buyer or commission-man). I don't dispute it; but I am looking at it, I frankly admit, from the selfish standpoint of the producer.

Mr. Muth "would suggest a broader range." That is, I suppose, from his standpoint, he being a philanthropist, and only in business for his health. Well, of course, it does make a difference, sometimes, which point of view you take, or whose ox is gored.

Then comes R. A. Burnett & Co., and, in a very moderate and conservative article, among other things repeats the Editor's statement: It is better to l—, to be a little lower in the quotations given, than a little higher. "It is the desire of the commission merchant to quote *as high as he dares*, etc." (The italics are mine). Depending on his conscience, I suppose. Well! well!

Then comes Hy. Segelken, all the way from New York (I didn't say anything about the New York market, but it seems the shoe fit him, too), and after facetious remarks about my being asleep, and afraid to sign my name, proceeds to say:

"We endorse emphatically every word of Editor York's reply, especially where he says 'It is better to l—, no, quote a cent lower,' etc. Exactly *this* has been our rule ever since we have been in business."

As I observed above, I had not included the New York market in my article, as I did not at that time know that Mr. Segelken had been misquoting it for so long; and as for my name, there is an old Greek adage which says, "Consider not so much who speaks, as what is spoken," and Mr. Segelken practically admits the truth of my statement as to ly—, no, misquoting the market.

Mr. Weber seems to be the only one of these combination buyers and commission men who honestly quotes the exact prices that he gets.

Another gentleman, Mr. H. R. Wright, has a word to say, who seems to be legitimately a commission man (not a buyer), and I wish to call attention to what he says. He has been in the business 30 years, and he does not quite agree with these buyers, etc., but says on page 486:

"It is not wise to quote honey too high or too low, for quotations are seen by buyers as well as the producers, and it is extremely difficult to sell above quotations." And again, near the foot of the same page; "I do not understand why any party would want you to quote market under price, unless they want to *use the quotation to help them buy in the country*."

Now, isn't it about time that some one mentioned it, even a sleepy Rip Van Winkle, when three prominent buyers and commission men admit that "It is better to l—, no, excuse me! better to quote the market differently from what it is? And, candidly, I would be not a little ashamed, even if I were a New Yorker, to admit that I had been ly—, excuse me again!—misquoting the New York market all these years, even if I had such an authority on commercial ethics as Editor York to wink at it.

But, gentlemen, what is the need of lying—excuse me—quoting the market lower, etc.? You don't need to; as Joe Jefferson makes my famous namesake say about his glass of liquor, "You'd be better mitout it."

There is a business here in Chicago conducted on similiar lines. Shippers send stock to the commission man, on commission; stock is sold and returns made, etc. A journal is published in the *interests of the shippers*, wherein *actual sales* are reported. The editor publishes actual sales of all prominent transactions. He may make his comments on the state of the market, etc., but the shipper and stock-man who receives the paper can see for himself just what the market is, and can use his own judgment in his shipments. There is no lying or misquoting, and if his stock arrives on a weak or falling market he *can't blame the commission man* for misleading him on quotations, at least.

There seems no good reason why this system could not be adopted by the bee-papers. Wouldn't it be better for all concerned? Gentlemen—combination-buyers-and-commission-men—why not try it and see if you will not thrive just as well by telling the truth, and have the added pleasure of a new sensation? Cook Co., Ill.

[And to think that all our symposium on quoting the honey market was lost on "Mr. Rip!" This certainly is discouraging. But we'll let him "call names" if he wants to, and accuse us all of lying, for it seems to amuse him, even if everybody else knows his charge isn't true.—EDITOR.]

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Feeding for Winter Stores.

I have had bees a long time, and this is the poorest year I have seen for honey, some of my best colonies not having enough to take them through. What is best to do with them, feed or not? And what shall I feed them, honey or sugar? and how shall they be fed? and when? I have about 10 colonies out of 63 in this condition. I started with 29 colonies in the spring and now have 63; they are strong in bees but have not enough honey to take them through the winter, and I do not believe they will get any more.

When I say to feed honey, I thought of taking out a comb that is well filled and putting it in for them; but even then they will not have enough for winter. IOWA.

ANSWER.—Increasing from 29 to 63, you have evidently had some after-swarms, and in a bad year it would have been the part of wisdom to prevent after-swarms or else to return them. It may be well to unite now any that are weak in bees and then feed those that need it. If you have enough combs of sealed honey to give the needy, nothing can be better. If not, then feed sugar and water in a Miller feeder or by the crock-and-plate plan. See page 567.

Catnip as a Honey-Plant.

What is the value of catnip as a honey-plant? I have a few bunches along the poultry-yard fence, and every day from morning until night the bees are working on the plants. Would it pay to plant out ½ acre, or an acre, of catnip for bees? Could the leaves or seed be utilized in any way. ILLINOIS.

ANSWER.—Catnip is a superior honey-plant, but I have some doubt whether it would be a paying investment to plant half an acre with it. The leaves are used as a medicine, especially for children, and if a market could be found for these there might be profit in the planting. In the lifetime of Jesse Oatman, I saw at his place a cultivated patch of perhaps an eighth of an acre, but I think it was not considered wise to continue it.

Perhaps there are others who can answer definitely.

The Queen's Sting.

Last February I wrote for your idea in regard to the queen's so-called stinger being a feeler, to which you replied on page 153. When I read your reply I saw that I failed to express what I had meant.

My experience agrees with every condition in your reply. I should have written that my observation had been, and still seems to be, that instead of being a stinger it was a guage, with power of feeling used to place the egg in a uniform position in each cell, as you find them. Your clipping in reply to Ohio, page 409, is about my idea.

To-day I saw two queens up close together that had been

out of their cells a short time, and the stronger, or older one, clinched the younger, or weaker one, and you would have thought she was pushing her stinger clear through her, right by the small connection of the two parts of the body. I rolled them around so I could have full view of what the process was. She tried to sting her, all right, or else bite hard. The so-called stinger seemed to be too soft to penetrate the body, and made a performance like one of your black wasps will when you hold him by the two wings, so he cannot sting, as we used to do at school.

But the queen died in a few seconds, either from a sting, bite, hugging or fright. I found this young queen in a worker-cell head first, where she had crawled for protection. I notice the weaker queen does not make any resistance in a melee, so the victorious one could not very well get hurt.

This season I have found several queen-cells with the queen dead, and the head toward the bottom of the cell.

CALIFORNIA.

ANSWER.—Confronted with such good authority as T. W. Cowan, I have been obliged to change my view as to the possibility of the sting being used by the queen as an aid in laying. Moreover, it is likely that I was wrong in thinking there is no need of a "feeler" at both ends, for workers have them. Cheshire tells us that, notwithstanding the swift work a worker makes in stinging, it always feels first the spot where it stings.

Taking Off Supers—Stores for Winter.

1. When is the best time to take supers off, in middle Wisconsin?

2. Should all the frames in the brood-nest containing unsealed honey be removed when preparing for winter? If placed in the middle, and containing a little honey-dew, the bees will get the diarrhea, and if put towards the sides, for the bees to get at towards spring, the honey sometimes pops out. What is best?

3. Sometimes after the supers are taken off, the bees swarm. If such swarm is hived on empty combs and fed 20 pounds of sugar in syrup, will that carry a colony through the winter and until the next fruit-bloom?

WISCONSIN.

ANSWERS.—1. Take them off as fast as the sections are all or nearly all finished, whether that be in June or September. Take all off as soon as it is evident that storing for the season is over.

2. Honey-dew of such character as to give diarrhea should be removed from the hive and replaced with honey of good quality or with sugar syrup. In spring, after bees are flying daily, it may be safely returned.

3. That will be likely to carry them through if the bees are cellared. For out-doors a fourth more would be safer. But let the feeding be done early.

Carrying Out Sealed Brood.

1. Something has gone wrong with one of my colonies. Here is the history so far as I know, together with present appearances: It was a swarm, having been hived on July 3, hence it is only a few days over a month old. It was a very large swarm, and during the first three weeks not only built frames of comb in the brood-nest down to the bottom, but filled one and partly filled a second super of sections. Over a week ago I noticed an apparent lack of energy in this hive; bees did not seem to be working, and acted as though something was wrong. I examined the frames carefully, but could not find a queen, although there was brood in all stages, even eggs. I noticed that a lot of the sealed brood was "bareheaded." However, since I found eggs I felt satisfied. Still the bees did not go to work, and seemed listless, walking about on the alighting-board in front of the hive. Yesterday and this morning I observed the bees busily engaged carrying out brood, some of it quite dead, but a good part of it still living, so that the young bees dragged out of the cells and thrown out could still move their legs, and some of them could even crawl around.

I at once opened the hive and examined the frames. I find no cells empty, and most of the remaining brood have the caps torn off and the bees are at work hauling the brood out of the cells. Some of it is dead, and some living, and some of it is hatching out in the natural way. But in a day or two the bees will have every brood-cell empty. The brood which the bees are carrying out is all taken from capped cells (there is no other in the hive at present). With very few exceptions it is not colored, but is shrunken and short. There is no sign of a queen in the hive at present, and evidently has not been for some days, as there are neither eggs nor unsealed brood. About 10 days ago there was brood in all stages, and a large quantity of it. The combs or cells out of which the bees are taking the brood are clean and apparently very dry. When empty I noticed 2 or 3 small wax-worms in the cells along with brood, but so far as I have examined, not enough to account for the very abnormal condition of things. Can you give me any hint as to what is the matter, and what to do in the case? I do not like to lose a colony which started out so well.

2. Would you advise me to put a new queen with this colony in its present condition, or what would I better do with it first? Of course, if I can get the colony in working order again I intend to feed it up for winter. I forgot to say that at present it has plenty of sealed stores.

ONTARIO.

ANSWER.—I don't know what the trouble is, but it looks like a case of poisoning. Being past the time of fruit-spraying it is hard to make any guess as to the scource of the poisoning, if poisoning it be, so it is impossible to say what should be done, only to hope that the trouble may now be over. In any case it may be a good thing to supply the colony with a queen. If the trouble continues, try giving a frame of brood with some of it sealed, taking it from another colony, and see if they tear the brood out of the sealed cells the same as they do with their own brood. If it were only part of the brood that was carried out, it might be drone-brood, nothing being wrong, but from what you say it seems to be all the brood.

Are They Diseased?—Paralysis.

Last June I found 2 colonies of bees had rotten brood, nearly one-half of it; it is not ropy or stringy. It dried up and the bees carried it out of the hives, and now some of the larvæ that are sealed up are dry, and some are watery. I think it will dry up, and the bees will uncap it and carry it out. There does not seem to be over one-tenth or less of the brood affected now, and they seem full of bees and prospering. Yesterday and to-day I find I have 3 colonies of bees that seem to have made drone-comb out of the worker-combs, and they have dead dried, brood, and I think all the brood just before capping looks yellow. Are they queenless, or are they diseased?

I had two colonies that had paralysis; I changed the queen for queen-cells, and they appear to be all right now.

IOWA.

ANSWER.—The trouble seems a little like poisoning, and if it is poisoning it will disappear when the cause no longer exists. The rearing of drone-brood in worker-comb indicates drone-laying queens or laying workers.

Introducing Queens.

1. When a queen is introduced *how* is one *to know* whether the bees received her? Of course, one could wait until the brood already in the hive hatches out, and then examine for young brood, but that takes time—too much time.

2. I introduced a queen a few days ago (August 2) and would like to give her more bees. Can I take bees from another colony and give her? If so, will there be danger of their killing the queen? If so, how long after introducing the queen before that danger would be over?

KENTUCKY.

ANSWERS.—1. If the queen is introduced immediately after the removal of the old queen, it will be about three weeks before all the brood from the old queen emerges from the cells: but there is no need to wait so long a time. Three days after the removal of the old queen all her eggs will have hatched, and if you then find eggs in the combs you may know that the new queen is laying. But if you do not find eggs at that time it is not by any means proof that the new queen is gone, for sometimes she does not lay for a week. By a little looking over the combs you can generally see the queen.

2. Yes, you can give more bees from another colony, but it must not be recklessly done. Something depends on the strength of the colony to which you wish to add the bees, and a good deal depends on the harvest. If honey is not yielding there is more danger. If the colony is very

weak, you must not give many bees. If they have three frames of brood, you may give a fourth with adhering bees, but it would not be safe to add two frames. The safer plan is to give them queenless bees. If you have no queenless bees, take the queen with two frames of brood and adhering bees from one of your colonies, putting them anywhere in a separate hive. In two days' time you can take from this queenless colony one or more frames of brood with adhering bees, and give to the colony you want to strengthen. Of course it will be better to take brood that is sealed. Then return to the queenless colony the queen with the two frames of brood.

Reducing the Number of Colonies.

I do not want over 5 colonies to keep over winter—I don't need more for my use, and I cannot sell colonies here for any more than the hives are worth. I have been doing just what farmers do with cattle, which they keep for family use. Some I keep for milk (honey), some I keep for breeders, and others I kill. I use the movable-frame hive with full, well-wired foundation. Those I keep over winter, I call my "breeders" (5 of them). They have the surplus one-pound sections and always produce enough comb honey. These are allowed to swarm in the natural way. I have hives ready with complete comb, from last year's building, which receive the swarms, and as fast as they fill and cap these combs I extract, leaving perhaps one or two of the center ones untouched. At the end of the honey-gathering season I—don't get shocked—I kill them with brimstone, and after extracting what honey is still in the hives, set the brood-chamber on top of one of the breeders, with perforated-zinc between. The hatched brood will strengthen the old colony, and by the beginning of December, when there is no danger of the bee-moth doing mischief, I take off the brood-chamber and find the comb again entirely clear of brood, and in perfect order for the next year's work. Thus I keep 5 "breeders" and 5 completed brood-chambers for use as stated.

Do you think I could safely strengthen my "breeders," if needed, by putting them where new colonies are, and shake the bees out of the latter in front of the breeders? Do you think there would be a fight among them, and perhaps do more harm than good? I know your method of putting a frame covered with bees into another hive, but I do not want to use my "honey" frames in with the breeders, if there is another way.

Your article on "Strengthening Colonies," by putting one hive where another has been, while many are "afield," will not answer my purpose, because the "breeder" may be as strong as the "milker," hence I would lose as many perhaps by being taken away from the old colony as would be gained in the new.

If you have any suggestions to strengthen my "breeders" with those or some of those I would kill at any rate, you will greatly oblige. PENNSYLVANIA.

ANSWER.—I confess I don't feel entirely sure I understand you. You don't say *when* you want to strengthen your breeders, but I suspect you mean when storing is over. You speak of putting your breeders where your new colonies are, which would lose to a breeder its own field-bees, an idea that later on you repudiate, leaving it a little muddy what you do mean. In any case, your fears as to danger from fighting may be well founded. Supposing that you want to strengthen thus your breeder about the time the harvest is over, you might do this:

Remove the queen from the colony that is to be destroyed, setting the hive on top of the breeder or close beside it, leaving on the stand of the condemned colony a hive with the queen and one comb. This hive will catch all the older or field bees, and upon these you can wreak your sulphurous fury without loss, for these bees would not be likely to survive the winter; while the hive that has gone to keep company with the breeder has the younger and more valuable bees. Two days after this these bees will be fully conscious of their queenlessness, and there will then be no danger of their making any attack upon the queen of the breeder. Up to this time there must be no communication between the two hives—if the one has been on top of the breeder it still has its own bottom-board. After its two days of queenlessness, you are then to set it over the perforated-zinc as has been your custom, with no bottom-board between, but over or under the zinc put a piece of manilla paper or two or three thicknesses of newspaper, allowing no communication between the two stories except a hole through the paper large enough for one bee to pass at a time. The bees will gnaw away the paper, and when all brood is hatched out you can extract.

If I don't get your idea, come again and I'll try it over.

Feeding Bees—T Supers.

1. How did you feed that 1,000 pounds of sugar the past spring, in the hives or out of them?

Do you still adhere to the "T" super? and do you like them? Do they sag at all?

3. Do you use any dovetailed supers with section-holders? If so, how do they act with you? I have had great trouble with their sagging, in some cases so badly as to close up the bee-space between them and the queen-excluders, or one super and the other.

4. Can "T" tins be used in a dovetailed super without much changing?

ANSWERS.—1. By means of Miller feeders, which are always put on top of the hives. In some cases a second story was put on a hive with a feeder over it, and filled combs were taken from this upper story to give to other colonies.

2. I still use the T supers and like them as much as ever. There is not the least sagging, the upright part of the tin entirely preventing it.

3. I have not had the trouble you mention, but I have not used them to any great extent.

4. The super would have to be shortened inside, which could be done by putting in one end a board of sufficient thickness, or a thin board with two little cleats.

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GENERAL ITEMS

Bees Doing Fairly Well.

We had a very poor honey-flow the early part of the season, but it is now picking up and bees are doing fairly well. H. H. MOE.
Lafayette Co., Wis., Aug. 20.

Disposing of a Laying Worker.

I had a case of laying worker like that on page 505. I take an empty hive, without frames, and put in two of the most empty frames, from the hive where the laying worker is, and then put a good queen with a few of her bees in a new hive, then put the new hive with the queen in the place where the hive stood with the laying worker, and put the queenless one on top of the other. When the bees come from pasture they will find themselves in a strange place and will not fight the

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queen. In 2 or 3 days the rest of the bees and frames can be transferred to the new hive. I did it in this way on July 5, with good success. The old bees were queenless since May 10; they are all gone now. I think it is the safest to introduce a new queen, only the old one must be taken away, and the first frames must be without brood. ANTON SIMON.

Linn Co., Iowa, Aug. 18.

A Bulgarian Beginner.

It is not necessary to tell you that I am a beginner in bee-keeping, but I like it very much.

I am a teacher in the Orphan-House here. In it live about 100 children (70 boys and 30 girls), and the larger ones like very much to work with me in the apiary, which consists of 8 colonies in Dadant-Blatt hives.

In the Bulgarian language there are two or three books or guides for bee-keepers, among which the best is, Bertrand's "Bee-Keeper's Almanac." D. CHAKALOFF.

Bulgaria.

Unfavorable Season.

This has been a very unfavorable season for the bee-keeper in this vicinity. The month of June was so wet that the bees stored very little, but July proved very favorable, and those that were so situated as to catch the milkweed flow reaped a nice harvest.

We are having very dry weather at present, and unless we get rain soon there will be no surplus from the fall flow.

I have about 10,000 pounds of white honey, mostly extracted. I hope for better weather soon. IRA D. BARTLETT.

Charlevoix Co., Mich., Aug. 18.

Very Poor Honey Crop.

The honey crop is very poor in this locality. Buckwheat and goldenrod are blossoming, but the weather is so stormy and cloudy that the bees cannot gather honey.

A. W. SMITH.

Sullivan Co., New York, Aug. 11.

Those Partially Filled Sections.

As the time of the year draws near when the disposition of partially filled sections becomes a question of importance to the average bee-keeper, I think the plan I used last year will be of interest, especially as it was very successful.

When the honey-flow ceased I took all the unfinished sections and divided them into two lots, according to the amount of honey they contained; those that were half completed or more in one lot, and those that had less than half in the other. The first lot I placed in supers in the ordinary way, and the others I put loosely in supers, breaking some of them so that the honey would run from the comb. This was to excite the bees to get them to do the work I intended them to do when I was ready for them.

I then nailed a lath on the top of a bottom-board in such a manner as to form a bee-space, leaving an opening of two inches in the front for an entrance. A patent bottom-board will do as well if the entrance is contracted to two inches.

I placed one of the supers, which had the sections in loosely, over a strong colony, and left it on until about noon the next day, when I removed it to the prepared bottom-board, with what bees it contained, and tiered up several other supers containing the same class of sections on top of it, and finished with a cover, being careful that there was no other opening for the bees except that which was made intentionally on the bottom-board, and on the colony I placed a super with the sections in properly.

Results began to show immediately. At first I thought there was going to be a case of old-fashioned robbing, but in a few minutes things quieted down except the bees from the colony which was intended should do the work. They worked the balance of the day,

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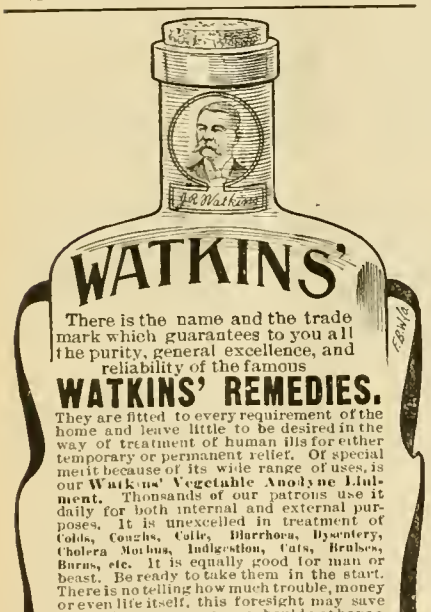

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and the next morning went back to work, and so continued, except when it rained, until I had all the honey in what sections it required, and the other sections cleaned ready for spring.

I found that it lost about 20 percent by being handled in this way, but I think that was better than having a lot of sticky combs around all winter, and the muss of putting them in supers in the spring.

Bees guarded the entrance to the supers as well as they did the entrance to their hive, and there was no signs of robbery after the first day, although I worked them about two weeks.

As fast as they would clean up a lot of sections I would remove them and put others in their place to be cleaned. On the colony I tiered up the same as I would in a honey-flow, only I used those sections which were more than half full.

As I was only experimenting I tried but one colony, but if I had many partially filled sections I would work enough colonies to do the work in a much shorter time, and I would use only very strong colonies.

C. M. BRADLEY.

Cook Co., Ill., Aug. 22.

Too Wet and Cold for Bees.

It was very cold and wet all through the spring, so the bees did not get built up very strong until the middle of June, and then there was nothing for them to do. It rained about half of the time, and it was too cold for them to fly the other half.

I never saw so much white clover in bloom in my life as this year, but not a bee to be seen upon any of it, and I do not see how they have done as well as they have, but they have found something, for they have stored some amber-colored honey, and some black as ink, which I think is honey-dew. We may get a short flow from goldenrod if the weather is so they can work. JAMES QUINN.

Strafford Co., N. H., Aug. 19.

Foul Brood—The Rosemary Cure.

My first experience with foul brood was in the summer of 1890. I had never seen a case and did not know we had any in the community. I was working for extracted honey almost exclusively, therefore I had no occasion to go into the brood-chamber for examination, until I observed something of a serious nature was the trouble with some of my best colonies—they were on the decrease. Then I began to examine them. I had 49 colonies, and had been extracting and exchanging frames from one to the other, so I had scattered the disease thoroughly, through the apiary. Then I put on my thinking-cap, and wondered what was the trouble, and what would be the remedy. I began to read up, and was soon convinced that my bees had foul brood, and in the worst form.

The honey season about closed, and the robbers ready to get in their work as soon as I took the cover off the hive. I tried the shaking process but it was not a success. During the next season it closed the business out for me. My neighbors had a few colonies and I began to look at them and found a number of cases of foul brood, so I concluded I would better keep out of the business for a while, believing it would not be long before they would be out also. I knew they had had no experience with the disease, and as long as the disease was in our community it was useless for me to attempt to keep bees, so I laid off until 1899, and came through all right that year. One of my neighbors had 3 colonies, and one of them died with the disease that winter. The next season I had two cases of it; the honey season came on, and one evening after they had all come in from the field, I closed the hives and took them away about half a mile from the apiary. The next morning I built a fire near them, and set an empty hive beside them, with a few frames with narrow strips of foundation in them; I opened the hives and shook the bees in front of the clean hive, so the bees could enter it, and put the frames and combs, and unhatched brood, on the fire where the flames consumed them; then I returned the bees to their former place in the apiary. After 4 days I took away

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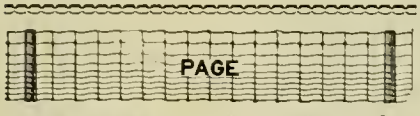
the combs they had built, and gave them full sheets of foundation. They filled their hive full of brood and honey, and I saw no signs of the disease that season.

In the spring of 1901, I bought a colony that seemed to be in good condition and strong in bees; the combs were not straight in the brood-chamber, so I did not make an examination. When the honey-flow came I removed the honey-board to put on extracting frames, and there was some honey and wax adhered to it. I put it up on a shed, near by, for the bees to clean off, and they did it, and the result was that in a short time I found 4 more colonies affected with the disease. I applied the same remedy to them, and I saw no more of the disease that year.

In the spring of 1902 I started with 34 colonies. May 15 I discovered I had the disease in several colonies. I had seen an article in the American Bee Journal, on page 198, where the essence of rosemary had been used with good results in several colonies with foul brood. I resolved to give it a test, with the next thing to no faith at all in its doing any good. May 16, I bought half a pint, paying 50 cents for it. May 17, I commenced using it on every colony I had, to make sure that none would escape. I filled a small oil-can and dropped 30 or 40 drops on top of the frames in the brood-chamber, being careful not to drop it on the bees, for it will kill a bee as soon as you drop it on it. I used it 3 times a week for about 4 weeks, and at the end of that period I could not find any of the disease in the apiary, and have not seen any up to the present date, and my bees never were in better condition than they are at the present time.

The total cost of rosemary used on the 34 colonies was $1.25. Some will say it may not have been genuine foul brood. Well, all I have to say is, it was the same as I had before, and I never have known a case of it to get well itself; and where they had it in the spring it increased very rapidly in June and July—it became so foul that it sent forth an odor so offensive that any one who had ever had anything to do with it before would not doubt its presence. J. G. CRIEGHTON.

Hamilton Co., Ohio, Aug. 14.



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HONEY AND BEESWAX
MARKET QUOTATIONS.

CHICAGO, Aug. 11.—Some comb honey produced in 1902 is now on sale. Fancy brings 15c; anything off in appearance or quality sells at 13@14c for white; amber grades, 2 and 3 cents per pound less. Extracted is selling at 6@7c for white; light amber, 5½@6c; dark, 5@5¼c. There is a fair demand for all grades and kinds. Beeswax steady at 30c. R. A. BURNETT & CO.

KANSAS CITY, Aug. 16.—The receipts of comb honey are increasing; so is the demand. New fancy white comb, 14c; No. 1, 13c; No. 2 and amber, 12½@13c. Extracted, white, 6c; amber, 5@5½c. Beeswax, 22@25c.
C. C. CLEMONS & CO.

CINCINNATI, July 26.—Considerable stock of 1901 crop fancy comb on the market and sells at 14@15c; there is a call for new comb honey, as yet none on the market; this market demands fancy comb; all other grades discourages trade. Extracted is in fair demand at 5½@6c for amber and 7@8c for clover. Beeswax, 28@30c. THE FRED W. MUTH CO.

ALBANY, N. Y., Aug. 22.—The demand for honey is improving with the unusual cool weather, the summer resorters returning home hungry. We quote: Extra white comb, 15@16c; medium, 14@15c. No other grades coming yet.

We want to caution shippers against shipping by express, as it arrives almost invariably broken. Express companies are stamping the cases "Received at owner's risk," which seems to cause their employes to "play ball" with it. Freight handlers are slower, more careful, and less broken, and much cheaper. We advise sending by freight only. H. R. WRIGHT.

NEW YORK, Aug. 11.—New crop comb honey from New York and Pennsylvania is beginning to arrive in limited quantities. There is a good demand for fancy white at 14c, and No. 1 at 13c, and exceptionally fine lots will possibly bring a little more. Lower grades quiet at from 10@12c. As to extracted honey, fancy grades are in good demand at from 6@6½c for white, and 5@5½c for light amber. Southern in barrels and half-barrels quiet at from 47½@60c per gallon, according to quality. Beeswax dull at from 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Aug. 19.—New comb honey is not coming in so plentiful, so far. Whatever has come in, and is fancy water-white, has brought a good price, and sold to stores from 15@16c. Honey kept over from last year, fancy sells for 14c. The market for extracted is more lively and brings—amber, from 5@5½c; alfalfa water-white, from 6@6½c; white clover, from 7@7½c. Beeswax, 30c. C. H. W. WEBER.

SAN FRANCISCO, Aug. 20.—White comb, 13@14c; amber, 10@12c; dark, 8@9c. Extracted, white, 5¼@5½; light amber, 5@5¼; amber, 4½@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

Not much offering or arriving of any sort. While the market is firm throughout, current values are being better sustained on comb than on extracted, for the reason that the latter has to depend to some extent on outside demand. All the comb honey offering will be required locally. The shipment of comb honey has never proven satisfactory, and the production is in consequence restricted to small compass.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.
21Atf Mention the American Bee Journal.

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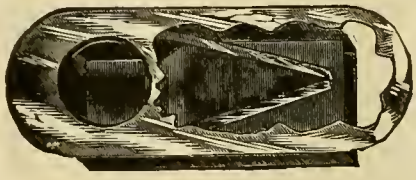

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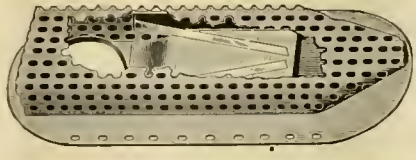

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., SEPT. 11, 1902.

FORTY-SECOND YEAR No. 37.

WEEKLY

APIARY OF H. E. GALE, CHATEAUQUAY CO., QUEBEC, CANADA.
(See page 580.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

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AMERICAN
ESTABLISHT IN 1861
THE OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL

42d YEAR. CHICAGO, ILL., SEPT. 11, 1902. No. 37.

Editorial Comments.

Greatest Good to the Greatest Number.—Bee-keepers as a class are a progressive lot, always on the alert for any change that offers a reasonable prospect of gain. It is human nature for a bee-keeper to be interested in an improvement by which he may make more, even if some one else suffers a degree of loss by it. More commendable it is, even if not so much according to human nature, that he should be interested in an improvement likely to bring gain to bee-keepers at large; and most commendable it is to be interested in that which will be an advantage to the world at large.

Suppose a bee-keeper discovers that by making certain changes in his supers and sections he can produce honey in sections that, without making any difference in the total amount of honey sold, will make consumers prefer his honey to other honey on the market. If there is no difference made in price, he will have the advantage of a more ready sale for his product, but whatever that advantage may be it will be exactly balanced by an equal disadvantage to competing producers. If a difference in price is made, the final result will be more or less lowering of the price of competing honey. Then his competitors must make the same changes he has made, so as to bring up the price they obtain. When all is balanced there will be no gain either to bee-keepers or the public, and bee-keepers will bear the expense of changes in fixtures.

On the other hand, take such an improvement as the extractor. The public at large is the gainer by its use, for a pound of good honey can be obtained for a less price, while hundreds of bee-keepers will testify substantial gains by using the extractor.

So, in laboring for improvements and in advocating them, it will be well always to place the greater emphasis upon those improvements which will bring the greatest good to the greatest number. Just now there is probably no more promising field for improvement which shall be for the benefit of all—an improvement in which every bee-keeper in the land can take a part—than that of improvement of stock. Fortunately it is a field which gives promise of immediate personal reward to each bee-keeper engaged in it.

The Bee-Louse (Braula cœca) is an enemy of the bees that fortunately bee-keepers of this country know little about. In Europe it is considered by some a troublesome pest, while others think it not worth minding. It seems a little strange that it does not flourish in this country, having been introduced more than once on imported queens. As many as ten lice have been found on a single queen. Prof. Cook says in his Manual, that, compared with the size of the bee, it is enormously large, hence it is no wonder that it devitalizes the bee "from which it sucks its nourishment."

Some European writers, however, assert that it does not suck its nourishment from the bee on which it dwells, but is merely a "table companion," partaking of the food that the bee takes by running down to the mouth of the bee. Prof. Benton is quoted in Cook's Manual as saying that "if hives are kept clean inside, and colonies kept supplied with young queens and kept strong, the damage done by the Braula is very slight, if anything."

Let us hope that in any case this pest may continue in its present mind and refuse to take out naturalization papers in this country.

Wax-Production.—The Australasian Bee-Keeper contains a symposium upon the production of wax, in which some of the writers think that it may be made a profitable thing to have wax the staple product, with honey a secondary matter, while a minority are of a different mind. G. Colbourne, Jr., says:

"One way to increase the production of wax is to space the frames wide and allow the bees to cap the honey well over; then, when extracting, cut the combs down level with the frames. In this way I have increased the yield of wax very much. I also find that it pays to insert a few empty frames in the extracting-super. I can not see any difference in the yield of honey from colonies so treated and those whose combs are left full thickness and all the frames full of comb. The extra amount of wax is quite an item at the end of the season."

E. J. Rien says:

"Always use bright, tin vessels if you would have a good-colored wax, and as the price varies as to color and clearness, there should be a constant aim to produce the best."

Box-Hives in Germany are in greater favor than here. Indeed, in some parts they are preferred by intelligent men who are experts in bee-keeping, and the bee-journal, which has the largest circulation of all German journals, has each month a chapter of instruction in "fixed" bee-keeping. Strictly speaking, however, the hives are mostly skeps made of straw.

Securing White Sections of Honey.—S. T. Pettit says in Gleanings in Bee-Culture:

On page 435, American Bee Journal, under the caption "Do not leave the sections on too long," the editor tells us how to get the sections all finished; but if I had to follow the directions I should never take comb honey. This pulling the supers to pieces during the honey-flow is just awful. I pity the poor bees and their good owner. Now, if the colonies are *strong* my best wishes would say, "Just try my system; use the wedges, or their equivalents, and my dividers."

Last year my son and I took thousands of sections. Mine in Aylmer averaged over 100 sections to the colony, and, with but very few exceptions, the outside sections were beautifully finished. In many cases the choicest sections were right next the dividers. Brother York's editorials are generally of the very best—well chosen, well written, and

right up to date; but this one is sadly astray. I quite agree that the sections should come off soon after the white-honey-flow ceases. Here, where the honey-flow is short and sharp generally, I leave all the sections on until the close of white honey.

If a system can be used that will get the outside sections finished as soon as the center ones, certainly that is a good thing. It is not entirely clear, however, what Mr. Pettit may have in mind when he pities the poor bees on account of "pulling the supers to pieces during the honey-flow." He takes off the super just the same, and it can hardly trouble *the bees* that two, four, or six of the sections are taken out of the super as unfinished. It is evident, too, that his conditions are different from those of many others. He generally leaves the sections on until the close of white honey. That may do very well with him, "where the honey-flow is short and sharp," but with many it would be leaving the sections on entirely too long, for before the close of the white-honey harvest the central sections of the first supers would be sure to be darkened. So long as whiteness of sections is a desideratum, take them off as soon as the super is entirely sealed, whether it be at the close of the harvest or before it is a third over, and generally it is better not to wait for the finishing of the corner sections.

Even with Mr. Pettit's system, getting outside sections finished as soon as inside ones, sections would be badly darkened if only taken off "soon after the white-honey flow ceases," when that flow continues as long as it does in many places.

The Apiary of H. E. Gale appears on the first page. He wrote thus when forwarding the picture:

I enclose a view of my home-yard of 111 colonies, situated in Chateauqnay Co., Province of Quebec.

It also gives a view of the house, my wife, two daughters, youngest son, and myself. My nephew happened to be standing so that he is entirely hidden by me, with the exception of one of his shoulders.

I run the home-yard principally for comb honey, and the out-yard for extracted honey. My oldest son has had charge of the out-yard this summer.

This has been a very poor season with me. The first part was so cold and wet that the bees did not do very well on the clover flow. The basswood yielded next to nothing, and now there is very little for them until the buckwheat blooms.

I commenced to keep bees about 20 years ago, but did not put my whole time into the business until about five years ago.

I subscribed for the American Bee Journal in 1896, and in a single issue I have found articles worth to me many times the subscription price. I recommend it to all the bee-keepers with whom I come in contact.

I have the largest bee-yard in this vicinity. I was the only contributor in this Province to the display of extracted clover and comb honey made by the Ontario Bee-Keepers' Association at the Pan-American Exposition, in Buffalo, N. Y., which display won the Gold Medal, and from which I received a certificate of "Honorable Mention."

H. E. GALE.

The Weekly Budget.

BEES HELP AT A WEDDING.—The Chicago Tribune of Aug. 26 tells how some bees helped a bridal couple in Aurora, Ill.:

Guests at a wedding ceremony in this city to-day were put to flight by a swarm of bees. As the guests rushed out of the house laden with rice and old shoes when the couple left for their carriage the swarm of bees, which had built a nest by the walk, attacked the company and drove them into the house, while the bridal couple rode away in peace. The bees entered the house, and the officiating clergyman was badly stung on the head and face.

Here is a suggestion for other bridal couples. Have a few bees to let loose on those who wish to "rice" and "shoe" them away. Great scheme!

MR. F. DANZENBAKER called on us last week when passing through Chicago on his return trip from visiting some California bee-keepers. He is very enthusiastic over his hive, which he says is to be improved in its finish of the small wood parts. Mr. D. is an interesting conversationalist, and loves to dwell on the excellent qualities of his devoted wife, who passed away a few months ago.

"BEES IN COLORADO" is the title of a 48-page and cover pamphlet gotten up to boom the Denver convention. Its author is D. W. Working, the alert secretary of the Colorado State Bee-Keepers' Association. It is beautifully illustrated, and printed on enameled paper. It is a credit to Mr. Working, and will be a great help in acquainting those outside of Colorado with the bee and honey characteristics and opportunities of that State. Price of pamphlet, 10 cents postpaid. Address, D. W. Working, Box 432, Denver, Colo.

CIGARETTES KILL A BOY.—This is the heading of an item reported to the New York World from Easton, Pa., Aug. 21, and forwarded to us by R. J. Cary, of Connecticut, one of our subscribers. It reads as follows:

Charles Zane, aged 11 years, died to-day from brain fever, superinduced by excessive cigarette smoking. He was ill ten days, and while delirious he went through the motions of holding a cigarette to his mouth and imagined he was blowing smoke from his nose.

It pays to bring boys into the world. But it doesn't pay to allow them to be killed off in that way. The "killing off," however, ought to be applied to the human hyenas that make and sell cigarettes and similar body-and-soul-destroying things. But it pays in dollars and cents, don't you know? That's the test now-a-days. What does a few thousand boys amount to if some one can make a few more dollars! And then, you know, by licensing the evils, it saves a few dollars in taxes! It's cheaper to use up boys than to pay honest taxes. And, then, it's so nice for good, Christian people to get the license (blood) money for furnishing the boys! Great exchange, that!

We know this isn't about bees, but we believe boys are worth more than bees. How about *your* boy? Are you rearing him for the cigarette or saloon to kill off? God forbid.

The Buffalo Convention Report is issued in pamphlet form, size 6x8½ inches, 80 pages and cover. Besides a full report of the proceedings of the 32d convention of the National Bee-Keepers' Association, held in Buffalo, N. Y., Sept. 10, 11 and 12, 1901, it contains fine half-tone portraits of all the officers and directors of the Association; also the Constitution, a list of the membership up to the end of 1901, and the two latest bee-songs—"The Hum of the Bees in the Apple-Tree Bloom" and "Buckwheat Cakes and Honey." We believe it is the finest ever gotten out for the Association. Of course, all members of the Association receive a copy free, but there are thousands of our readers who are not yet members, but who should have this valuable Report. Better send for a copy, if you have not yet received one. Price, postpaid, 25 cents, or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal. Better order soon, before all are gone.

Convention Proceedings.

Report of the Texas State Convention, Held at College Station, July 16 and 17, 1902.

BY LOUIS SCHOLL, SEC.

(Continued from page 567.)

SECOND DAY.

The meeting opened at 8:30 a.m., with the reception of a number of new members, after which the committee on resolutions made their report, and the following were unanimously adopted:

REPORT OF COMMITTEE ON RESOLUTIONS.

Resolved, That we tender our thanks to Pres. J. W. Salyer for the efficient manner in which he has discharged his duties while in office during the year just closed.

Resolved, That, 1st, in recognition of the services of Prof. F. W. Mally in securing the experimental apiary at the College, and in view of the great services rendered by him in various ways to the bee-keepers of Texas, we tender him our warmest thanks and highest appreciation of his work; 2d, in view of the service rendered by Prof. Wilmon Newell, in the establishment and equipment of the experimental apiary, we tender him our thanks and full approval of his work, and heartily recommend him to the bee-keepers of Texas.

WHEREAS, The Hon. W. O. Murray did, at the last session of the Texas legislature, use his influence to secure an appropriation for the establishment of an experimental apiary at the A. & M. College of Texas; and

WHEREAS, The Hon. W. O. Murray did use his best efforts, and did persistently defend the interests of the bee-keeping industry in Texas; and, owing to the fact that the establishment of an apiary at A. & M. College, making possible the investigation of important problems in bee-culture, and offering to the students of the Agricultural College a course of instruction in the same, is largely due to his influence, be it

Resolved, That this body extend to the Hon. W. O. Murray its hearty and sincere thanks for the valuable services above mentioned. Be it further

Resolved, That the Secretary of this Association be instructed to forward to the Hon. W. O. Murray a copy of these resolutions, and they be spread upon the records of the Association.

F. J. R. DAVENPORT,
W. O. VICTOR,
H. H. HYDE,
F. L. ATEN.
Committee.

DELEGATES TO THE NATIONAL AT DENVER.

Following the adoption of these resolutions, the Association elected the following delegates to the National Bee-Keepers' Convention, which convenes in Denver, Colo., Sept. 3, 4 and 5, 1902: Udo Toepperwein, Louis H. Scholl, W. O. Victor and H. H. Hyde. Alternate delegates were elected as follows: L. Stachelhausen, F. L. Aten, J. B. Salyer, F. J. R. Davenport, and Mrs. C. R. West.

A motion was then made relative to having special badges prepared for the delegates to wear to Denver. It was ascertained that the secretary had already ordered association buttons, but which had not yet arrived; it was decided to have ribbon badges printed, to be used with the buttons, and this combination could be used year after year by delegates elected.

PRES. SALYER'S ADDRESS.

Pres. Salyer having arrived, he was requested to deliver his annual address. He spoke on the importance of bee-keepers getting together for organization, and of united efforts in earnestly pushing forward bee-keeping until it should occupy its due place as an important industry. Earnest organization counts for much towards success. He made a direct appeal to every bee-keeper when he said, "Organize and get together all the bee-keepers in your neighborhood."

Pres. Salyer has been interested in Farmers' Institutes, and has been impressed with their good work in making better farmers, better cattlemen, better truck-farmers, better fruit-growers, and better men in all lines of agricultural work. He argued that the same thing could be done in the case of bee-keepers. He also called attention to the rapid progress being made by the Texas Bee Keepers' Association, and to its importance in developing this resource of the State. He also discussed at length the benefits accruing to its members, both educational and financial, through their mutual support and co-operation.

He also called the attention of the members to a clause of the Association's constitution, which clause was adopted at the previous annual meeting, which requires all annual membership dues be paid in full at or before the time of each annual meeting. Members should be prompt in sending in their dues to the secretary in time, so that all amounts can be sent to the General Manager of the National Bee-Keepers' Association at the appointed time, thus lessening the work of the secretary and preventing more or less delay each year in keeping the accounts of the Association.

Therefore an earnest request is made that all members send in their annual dues at or before the time of the annual meeting in July, which annual meeting is held in connection with the Texas Farmers' Congress.

The regular program was then resumed, and Mr. F. L. Aten spoke on

THE PRODUCTION OF EXTRACTED HONEY.

Mr. Aten remarked that the subject had been gone over so many times that he feared he could add but little. He astonished some of his listeners by making the remark that this year he had not produced any extracted honey at all, but explained matters by stating that on account of the dry season he had no honey, the crop being an absolute failure.

He then related his methods of procedure in years when a honey-flow is to be had, when he is a heavy producer of extracted honey.

He uses 10-frame hives, with plenty of super-room, sometimes tiering up four or five stories high. He uses the regular full-depth body for extracting-supers, and allows the queen to go up in these as high as she desires. As the bees fill the supers with honey she will be crowded below, or to the regular brood-chamber.

M. M. Baldridge, of Illinois, said that, as a matter of course, honey could not be produced when there was no nectar to be gathered, but he said that he believed that when honey was to be had, rousing colonies and plenty of super-room about covers the subject of producing extracted honey.

H. H. Hyde's most important requisites for the successful production of large quantities of extracted honey are: A good locality, good honey-flows, strong colonies secured by the use of prolific queens, and plenty of empty combs.

ANNUAL ASSOCIATION EXHIBIT.

Under the head of new business the following was given attention:

H. H. Hyde spoke on the importance of having a bee-keepers' exhibit at each annual meeting of the Association at College Station, and that premiums should be offered, so that the bee-keepers would make the best showing possible, of what the bee-keepers are doing. He also mentioned the good results that would come to the Association through this plan. After a lengthy discussion it was decided that a committee should be appointed to consist of such persons as would give careful attention to working up the matter.

Udo Toepperwein spoke relative to a bee-keepers' exhibit at the San Antonio Fair, as Pres. Brown of the Fair Association had requested that the bee-keepers make an exhibit. Pres. Brown also asked that he be advised as to the exhibits the bee-keepers would have at the Fair, and the amount of space they would require, as the Fair Association had signified their desire to do everything possible to help the development of this industry within the State.

The question of providing a suitable premium list for use at fairs was then discussed.

H. H. Hyde was appointed a committee of one to take charge of and secure exhibits and premiums at the next meeting of the Association at College Station, in 1903; he was also authorized to correspond about and solicit premiums therefor.

Mr. Toepperwein and Secretary Scholl were appointed a committee to co-operate with the management of the San Antonio Fair Association, in adopting a suitable premium list, and determining the amount of space that would be required by the bee-keepers' exhibits.

A committee, consisting of those appointed later by the executive committee, was also appointed for the purpose of securing exhibits for the World's Fair at St. Louis in 1904.

and was given instructions to co-operate with similar committees from other sections of the Farmers' Congress.

As a standing committe to supervise and attend to any future needs of the experimental apiary, J. B. Salyer and F. L. Aten were appointed.

Prof. F. W. Mally, M. M. Baldridge, Dr. R. C. Buckner and Hon. W. O. Murray, were unanimously elected honorary members of the Association.

THE PRODUCTION OF COMB HONEY.

H. H. Hyde talked on this subject. Success in this is more dependent upon right conditions than in the production of extracted honey. With a good locality and fast honey-flows it is more profitable than the production of extracted honey. Here the importance of having good queens and strong, rousing colonies of bees, again comes in. Without these you will not succeed. The proper manipulation of the brood-nest in the spring is of great importance. It should be so handled as to induce the production of a great many young bees, so that at the beginning of the honey-flow the brood-combs will be filled with brood.

Shallow supers have their advantages over others, in that they produce more capped honey, and sooner than when deeper combs are used. Besides, in manipulating hives containing shallow supers, the handling of the frames individually is unnecessary, as all the handling is done by cases, or full shallow supers. Then, too, brushing off the bees is dispensed with, the shallow supers being easier to remove. The bees are smoked down, supers taken off, and jostled roughly, when only a few bees will be left upon the combs, and these will soon leave for home, freeing the combs of bees.

Mr. Hyde advocates using shallow supers with combs in shallow frames, on all hives at the beginning of the season. He allows the queen to lay in these, thus giving her more breeding space. Then, when section-supers are to be put on, he removes the shallow-frame super, and thus the bees go right ahead storing honey in the newly-put-on sections.

He also spoke in regard to having supers ready beforehand, to be immediately available when the flow comes on. Care should also be taken to have such supers, containing comb foundation, put away so they will be free from dust or dirt, as the bees are slow about entering dirty ones. Supers should not be put on until the flow is coming on, as the bees have a tendency to gnaw down much of the foundation given them if sufficient honey is not coming in. Mr. Hyde advises removing all comb honey from the hives as soon as well sealed over, and before it becomes soiled. The demand is more for comb honey in bulk, or, as formerly known, "Chunk Honey." He explained how it was produced, in shallow extracting-supers, then cut out and fitted into cans, after which extracted honey is poured over it to fill up the crevices. This packing is of much importance. If the honey is put up honestly and neatly, so that a gilt-edged article is produced, a good demand can be maintained at remunerative prices.

L. H. Scholl told the bee-men how he used the shallow extracting-super on all his hives the year around. In early spring the queen is allowed to go upstairs and use it for an increased amount of room. Then, as more or less honey comes in during the spring, before the main honey-flows, it is stored upstairs and crowds the queen down into the lower compartment; and by the time the main honey-flow comes on, the shallow super is about full. These are then raised up and the comb-honey supers inserted between them and the brood-chamber, when the bees go right ahead and fill them with a vim not shown by any treated in other ways. Thus a whole super of extracted honey is gained, besides being very essential in the spring in providing a place for the storage of all surplus, or honey not used in brood-rearing. It also prevents clogging of the brood-nest, which is likely to occur where no such room is given, and saves the honey which the bees otherwise would have had no use for, and no place to put.

He, like Mr. Stachelhausen, prefers the divisible brood-chamber hive, consisting of shallow-frame cases or supers, and these have brought the best results in every trial for several years by the side of several other kinds of hives.

The question was asked as to whether an entrance at the top of the super would be of advantage. The reply was that it would not be, as it would give too much ventilation, would interfere with the nice finishing of the combs, and that very few of the bees would make any use of such an entrance; hence it would be useless.

"Should an excluder be used on the brood-nest when the comb-honey supers are put on?" Answer: "No, it is not found necessary."

F. J. R. Davenport related his experience in producing comb honey. He is not in favor of producing what he calls a "cap and ball" honey, *i. e.*, in shallow frames, or bulk comb honey. He wants his in sections, of which he can sell more than he can produce. He rehearsed the importance of saving every section containing foundation starters, drawn comb, and even the very small bits started in some sections, as they are the most valuable in getting the bees started when the honey-flow begins. He keeps these nicely stored away, safe from the ravages of mice, rats, moth-larvæ and dust, so that they are nice and clean when they go to the hives.

MARKETING HONEY.

M. M. Baldridge was called upon for a discussion of this subject. He uses frames seven inches deep for comb-honey production as well as for extracted. Then, instead of using pails or cans, he has manufactured for him shallow pans or trays which will hold just one comb when cut out of the frame. He also sells his extracted honey for the same price as comb honey—makes no difference in price—sells them in the same style of can regardless of kind. He said it was the bee-keepers' fault that a difference of price existed between extracted and comb honey, and the bee-keepers were foolish for ever having made any difference in price between the two. If this had not been done, extracted honey would today be selling at the uniformly higher price received for comb honey. His, of course, is a retail market, and under such conditions a uniform price for both extracted and comb honey would be satisfactory; but for a wholesale business it would not answer.

Mr. Davenport said that he wanted his honey in sections, which he packed in twelve-pound cases and sells in his home market. In regard to comb honey packed in pails and buckets, he told of the quantity shipped in from the North—adulterated goods with but a strip of comb put in each package to deceive the public. The people soon come to dislike this glucose mixture, and prefer to buy what they know to be pure honey, namely, that in the comb or in sections, which sells right beside the vile, adulterated stuff for very much higher prices. He calls all his yellow honey "Gold-Bug Honey," and all his white honey goes as "Free Silver Honey," and if he had 150 cases of it in his own town he could dispose of it in a few hours. "It knocks the 'cap and ball' honey out, every time." He related instances where comb honey, put up in cans, when opened would boil out as though it were all frying on the inside. He objects to the way in which bulk comb honey is put up by many bee-keepers, the cans being smeared with honey, dirt and dust, which certainly is anything but a good advertisement for the industry.

He believes in advertising, and advertising right; then in putting the best of goods on the market, and with a little talking they can soon be disposed of at good prices.

Prof. Newell arose to say that if there was anything by which to successfully advertise one's business, it was by one's mouth.

A motion was approved for the Association to purchase 144 copies of the Farmers' Congress Proceedings at 8½ cents per copy, this being the number allotted to each section of the Congress. Owing to the fact that the bee-keeping section was not as strong as some of the other sections, and owing to the fact that this number was not needed, the motion was amended so that the Association should take 50 copies at a price not exceeding 15 cents each. A sum was raised for payment of this number, and the Secretary instructed to mail copies to the members. [This matter has been referred to the executive committee.—SECRETARY.]

Concluded next week.)

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

Contributed Articles.

Forming Nuclei—A Review and Comment.

BY DR. C. C. MILLER.

In the American Bee Journal for March 30, 1899, page 198, a questioner proposed to make a nucleus by taking a frame of brood and eggs and one of honey, and asked whether a pint or so of bees would do. I replied:

"They may protect themselves against robbers, and they will be pretty sure to rear a queen, but the chances are that the queen will be a very poor affair."

On page 370 of the same volume, Mr. Doolittle objected to my answer, and said:

"If *four quarts* of bees are taken from any colony of the 14 our questioner says he has, and said 14 colonies are all in the same apiary where he is forming his nuclei, as it will be reasonable to infer, said four quarts will not be enough to make a decent nucleus of those two frames, providing no precautions are taken to make that four quarts of bees stay in that hive, for all but the very youngest, fuzzy ones will go back home, and the fuzzy fellows run out in the grass and all about the outside of the hive, where they will perish."

That statement surprised me very much, and I said on page 788:

"If I should take four quarts of bees without any precaution, and put them on a frame of brood and one of honey, I think enough would remain to make a fair nucleus; but as I have not actually tried for years taking bees from a hive with a laying queen to form a nucleus, I am not positive about it."

On page 484, Aug. 3, 1899, Mr. Doolittle was still more sweeping in his statement, where he said:

"As it is stated that 'Iowa' intends to take the bees which he is to use in forming his nuclei 'from the colonies with laying queens, shaking the bees from the combs and giving them directly to said nuclei,' I would reply that under such conditions *all* the bees there were in any one colony from which they were taken would *not* be sufficient to form a decent nucleus.....The proposition does not even hint at any precautions being taken to keep those bees in the hive with the comb of brood and honey, and unless such precautions *are* taken, there will not remain bees enough in that hive to make a decent nucleus 24 hours later, no matter if two bushels are put in by the plan proposed; for what can not get back home again will run out of the hive and scatter over the ground, through the grass and anywhere but stay with those two combs in that hive. I know what I am talking about, for I have tried it many times, even putting them in just at dark, only to find them scattered all over everything surrounding the hive early the next morning, with scarcely a bee inside on the brood and honey."

In a nutshell, if I understand him correctly, Mr. Doolittle teaches that if bees and brood are put on a new stand, the bees having been taken from laying queens in the same apiary, they will in no case remain where put unless previously imprisoned.

It would not be a very difficult thing to ascertain from the bees themselves whether Mr. Doolittle is correct or not, and yet, being very much occupied, I never made any direct experiment in the matter until recently. August 1 I formed two nuclei by giving to each of them three frames of brood with the usual number of adhering bees, the same being taken from normal colonies in the same apiary without any precaution whatever.

I may say by way of parenthesis, that I am not in the habit of making nuclei so strong as this, because I either use queenless bees or imprison the bees in the nucleus hive for a day or more. This time, however, the bees were not queenless bees, and no precaution whatever was to be taken to make them stay, and I thought a larger number of frames of brood and bees would be more successful.

I did not look at the nuclei till three days later, when I found a plenty of bees remaining to cover well the frames of brood.

Then I thought I would try having about the conditions that had been specially mentioned. I took a nucleus hive having three compartments, the two outside compartments large enough to contain three frames each, and the middle compartment large enough to contain one frame. In the central compartment I put a frame of brood, and in each of the other two compartments a frame of brood and and one of honey, and a dummy, all bees being brushed from the combs. Then I put the hive an a pair of scales, and after taking the weight, brushed upon the combs 2¼ pounds of bees, allowing the bees to distribute themselves over the combs. Then covering up all, I put the hive upon an unoccupied stand and left it to its fate. Two days later I found all three nuclei robbed out, not a drop of honey remaining. Notwithstanding that, two of the nuclei had a sufficient number of bees remaining to make satisfactory nuclei (the central and one of the outside ones), while the third nucleus was deserted. I gave some honey to each of the two nuclei, stopping the entrances for a day or so, so that robbers could not enter, and they have held their own against the robbers since.

In this case it will be seen that there were less than a pound of bees to each nucleus, much less than "four quarts," to say nothing about "two bushels," and, according to Mr. Doolittle's assertions, they ought not to have stood a ghost of a chance for existence, and yet they did exist, and that after having all their honey taken away by robbers, and to-day—15 days after the formation of the nuclei—I find plenty of bees present in each of the two nuclei.

I do not want it understood that I advise forming nuclei with bees that are not queenless without taking any precaution against desertion, but I think I have proved that in this locality, and with my bees, there will not in all cases be such wholesale exodus as Mr. Doolittle speaks of. I prefer queenless bees for forming nuclei, as such bees will "stay put" more contentedly, but within the past two years I have formed many nuclei by taking them from colonies having laying queens, and imprisoning them in the nucleus hives for a day or more by stuffing green leaves into the entrance (green grass will not answer as well). I think they are thus safer from robbers than if first imprisoned after Mr. Doolittle's plan, and it is a good deal less trouble.

But I have lately formed new colonies (not nuclei) by simply taking brood and bees from laying queens, putting them in a hive on a new stand without any precaution whatever, and so far I rather like the plan. On the 8th of the present month of August, at the Hastings apiary, I put three hives on new stands, each containing four or five frames of brood and adhering bees taken from colonies with laying queens, and put in each hive a caged queen. Yesterday, Aug. 18, I was again at that apiary, and I found each of the three new colonies well stocked with bees, a moderate force of field-workers flying, and in each hive plenty of young brood and eggs. I do not believe they staid any better for the presence of the queen, for she was a stranger to them.

I wish Mr. Doolittle would try the experiment of putting in a hive four frames of brood with adhering bees, so as to see whether they would desert in his locality.

Why Mr. Doolittle's experience should be so different from mine I do not pretend to explain. The kind of bees may have something to do with it; but I am inclined to believe that for the majority of bees and the majority of places my teaching upon the subject has been sound.

McHenry Co., Ill.

Commercial Queens—Amount of Brood in Large Hives—Age of Workers at Different Seasons, Etc.

BY F. GREINER.

In the series of articles on queen-breeding, written by Dr. Gallup, the contention is that queens reared by artificial methods are greatly inferior to those reared naturally. The Doctor cites many instances to prove his position. He has had a most exceptional experience with bought queens. I have not had such disastrous results. These things are absolutely not true with the queens I have bought. The very worst case I have had was with six very yellow queens which did not go through the winter, and one other queen which laid only "dead" eggs, or such as would not hatch. Nearly all others were prolific enough to keep the combs of a 10-frame hive well filled with brood, and attained the age of three years.

It would not be fair to condemn all queens reared from worker-larvæ because Dr. G. has had such a singular experience. He says his bought queens would not lay

enough to keep three or four frames full of brood. The average commercial queens do a great deal better. Mr. Case, treasurer of the Ontario County Bee-Keepers' Association, says the queens reared from young worker-larvæ do just as well with him as those reared naturally or under the swarming impulse. At the present time I have only three bought queens in my yard. They brought their respective colonies to a high state of populousness early in the season, and when preparations were made for swarming I formed nucleus colonies with the queens in order not to run any risk of losing them. At this writing (Aug. 7) these nuclei have again reached full normal strength, and are ready for the buckwheat harvest. These are the rules, not the exceptions. I can not understand what kind of queens Dr. Gallup must have gotten hold of. I have no ax to grind, as I do not sell queens.

In speaking of longevity of bees, Dr. G. judges and condemns certain mother-queens because he finds a certain number of dead bees scattered around the hives. I wonder whether that is the way he judges this matter, or any other matter, for that matter. If it is, I don't give much for his opinion. The only certain way to test the longevity of bees of a certain queen is by changing queens or brood with other colonies of different blood. How could the Doctor tell whether or not the dead bees lying around were from those special hives? Admitted that the bees from his properly-reared queens live 90 days, as he says, does he claim that when the time comes for them to die—and it certainly does—that they have vitality enough to go away and die far off, while the offspring from his so-called degenerated stock dies in or near the hives? If his high-blooded queens are no more prolific than those of deteriorated blood, just as many bees of high-blood stock must die as are born, the same as in the colonies of inferior blood. If they are more prolific than his high-blooded colonies, they must lose more bees each day than the others, and he ought to find more dead bees around his rousing-big colonies. This seems as plain as twice two makes four. I don't think Dr. Gallup has claimed that his high-blood bees do *not* die. If they die, where do they die? (I do not mean to say that during the working season the bees die around their hives; they don't. They die in the field, as a rule.) We must be careful in our experiments and not jump at conclusions.

Dr. Gallup resides in California. From his writing it seems his locality is favorable for bee-keeping. In such a country a colony of bees requires a great deal more room. The same number of bees would make much more of a showing there than they would in a locality like mine, with its regular, poor honey seasons. Judging from the very poor results I have chronicled for a long term of years, I began to lose faith in my own ability; but the wonderful yield I have had in a distant out-yard—with the same stock of bees, mind you—shows very plainly that a good locality is the secret of success. When honey flows the colonies appear populous; they may occupy half a dozen of 10-frame hive-bodies. There is nothing wonderful about it.

As to Dr. G.'s bees living 90 days in the working season, I am skeptical, at the least. Mr. C. P. Dadant says, on page 485, in substance, that bees hatched May 22 will all be dead Aug. 1, thus making 70 days, the greatest age of a bee at that time of the year. It is well known that the Dadants, for many years, have used very large hives, and their bees ought to live as long as anybody's. Had Mr. Dadant, in his experiment, changed his black queen for a yellow one on June 1, instead of May 1, the chances are his bees would have lived but 60 days, or less. On the other hand, Mr. D. says that bees hatched Sept. 1 will live till May. With me they live till July, *i. e.*, just a few of them. Cellar-wintering might bring about this different result; I do not know.

Thus, it will be seen that different men have different experiences, and arrive at different conclusions.

Mr. Gandy, of Nebraska, is another example of how widely experience differs. He, like Dr. Gallup, is an advocate of large hives, because, as he says, bees will occupy two combs on each side of the hive for storing pollen and honey, anyway. This would leave but 4 frames of an 8-frame hive for brood, which, of course, is not enough. Two 8-frame hives would not suffice. They ought to be 10-framers, at the least.

In my hives of 10-frame capacity, sometimes one comb on each side is thus used for pollen and honey, but very often—yes, usually—brood is found in these outside combs, although not as much as in the others. In an observation glass hive, standing by the window in my house, I can now see brood again in each outside comb, the colony occupying it having swarmed, and the young queen—an *improperly reared one*—is again doing her duty, as it seems.

In a 12-frame glass hive, in my yard, the brood reaches the outside comb on one side; there is brood in 10-frames. These are the rules with my bees here, and my colonies have probably as much brood in one hive-body as Mr. Gandy's or Dr. Gallup's in two or three. It seems, anyway, that with good honey seasons I can produce very large crops, inferior queens and small, 10-frame hives notwithstanding.

The experience of Mr. Gandy as to longevity of queens differs widely from Dr. Gallup's. Mr. Gandy's queens can not stand the strain two seasons; Dr. Gallup's queens live six years. Both of these gentlemen give their queens unlimited room. In my yards queens seldom live much over three years.

The reason why the experiences of different men differ, must lie in their peculiar location, as well as in the different management. Some men may also be keener in making correct observations. I am not able to detect a great deal of difference in different stocks of bees, or in properly or improperly reared queens.

I have often used two 10-frame hive-bodies for brood-chambers, with both properly and improperly reared queens in them. It was no uncommon occurrence to find 16 frames with brood in them; but to obtain comb honey from such colonies—that has been a complete failure unless a severe change was made at the beginning of the main honey-flow, or soon after. In good honey seasons it may not be impossible to obtain comb honey from these double-deckers.

Ontario Co., N. Y.

Rearing Long-Lived Queens—Other Matters.

BY DR. E. GALLUP.

In reply to Mr. Baldwin, on page 493, I will say that last May or April (I have forgotten which) I received a queen of the long-tongued variety, cracked up to be extra, etc. Well, she turned out *entirely* worthless, not prolific, did not occupy two combs with as many eggs by one-half as she should have done, and with all the coaxing that I could do to have her rear bees enough so as to supersede her, she died the last week in June with feebleness and old age, and her bees failed to rear a queen to take her place. Now, I have no doubt she was reared from a good strain of bees, but she was reared out of season the fall before, and in an unnatural manner. It is a fact that a good strain of Italians can and do work on flowers that ordinary black bees can not reach. This fad of long tongues was gotten up by some queen-breeder in order to sell his queens, and the other breeders have taken up the cry in order to keep up with him. Long tongues, improperly or unnaturally reared, are a humbug, anyway.

The nearest right distance for frames is 1½ inches from center to center in the brood-chamber, instead of 1¾. I have tried them both ways.

On page 509, "One Way to Improve Stock," is a good item to read carefully.

On page 502, in the article by F. Greiner, it seems that he did not get at my true meaning about extra-large colonies producing long-lived queens. An extra-large colony manufactures a large amount of electricity, heat or vitality, while an extra-small colony is lacking in all these essentials or necessities for rearing good queens.

Mr. Greiner says we should not ignore the fact that Mr. Doolittle and others are just as successful since practicing queen-rearing according to the new methods as they were when queens were reared naturally. Now, Mr. Greiner, are you sure that is a fact, or have you jumped at that conclusion without examining the facts? I have examined the facts, and do not find your conclusions correct. Mr. Baldwin says the truth should be spoken at all times. Well, I have begun on this line, and now I shall speak right out in meeting.

Being a prominent writer on bee-keeping, I have had a great many inquiries as to whom I would recommend as the best queen-breeder, and I almost invariably recommended Mr. Doolittle. I also had queens shipped in my name for different parties, and all that reported said the queens did not turn out right. I have received private letters from queen-breeders, stating they had received queens from him, that they had paid an extra price for, and they did not turn out right, etc. I tried one queen from him myself, and she was no good. Four years ago, when so many were sending me queens to test, he sent me two for a present. I think I received them in August, and in the fall both colonies that I introduced them to had dwindled down very low in numbers

and both queens died before spring. They were probably reared the season previous, and consequently died of old age. Mr. H. Alley sent me two queens as a present the same season—they were his Adel strain—and both colonies petered out before spring.

Most people dislike finding fault with a queen-breeder to his face, and so do I, but now we are trying to get at facts. My motion is that queen-breeders, as a class, are as honest as I am, and I never had the least fear of being hung for my honesty. Mr. Doolittle and Mr. Alley both comply with all the necessary conditions but one for rearing queens, consequently their queens do fairly well the first season, but almost invariably fail the second season. There are exceptions to all general rules, I admit.

Now, gentlemen, if you can invent any plan in transferring common larvæ to the cell-cups, whereby you can attach that umbilical cord, you will then come up to Nature, otherwise your queens will lack longevity. Look this matter up thoroughly, and see what conclusion you arrive at. Don't find fault with me for coming to the conclusion that I have.

Mr. Greiner went into a trifle of ridiculousness about Gallup's long-lived queens. I wish to ask him one question: Mr. Greiner, are you aware that ridicule is not argument? Neither you nor any one else can overcome facts by ridicule.

That colony of mine that sent out the extra-large swarm which filled three standard hives with bees, was not the only one I had, it was only one out of seven, all built on the same plan. I have said before that my colonies in extra-large hives all swarmed from 1 to 10 days before those in the standard hives, and I am foolish enough to attribute it to the fact that their queens were all reared in extra-large colonies, and on the superseding plan, as the previous season they did not swarm, and I honestly thought I had made a non-swarming hive. I know that longevity of both queens and bees were above those in the standard hives.

When I started bee-keeping in this State, the bees were in 10-frame Langstroth hives, and, as I have before stated, I selected two colonies to rear queens from. I stimulated them to have them rear natural queens early. One reared 17 and the other 19 queens; all had had 20 frames, and each had 16 frames fully occupied with brood, and 2 more frames in each hive partially occupied. I managed to save every one of the 36 queens, and all turned out extra-good in every respect. They were good not only the first season, but good for four seasons.

Now, here is another thing: I do not know how many letters of inquiries I have received in regard to queens, prices of queens, etc., since commencing those articles, and I wish it distinctly understood that I never have reared queens for sale, and never expect to do so. So no one can truthfully say that I have an ax to grind, other than to benefit bee-keeping.

Orange Co., Calif.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

HASTY ON A HOP, SKIP AND JUMP.

With a hop and a skip and a jump a number of weeks have got to be gone over. (You see, I've been playing truant; but the teacher kind 'o intimated that he wouldn't whip me, and so I'm back again.) The writers in those numbers are lucky, or unlucky, just as they view things. If they deem it a favor to be reviewed, their case is sad. If they consider my reviews as a traveler considers the attentions of the custom-house officer, let them chuckle that their baggage has slipped through untouched.

A PIPING QUEEN.

We might guess that a queen piping up and down the hive would stop laying; but it is better than a guess to have so careful an observer as Doolittle tell us such is the fact. And a being-introduced queen, as long as she pipes, is not safe from attack. Page 423.

A SWARM-PROMOTER.

So Mr. Davenport "prevented" a considerable number of colonies from swarming by putting all brood above an excluder and every one swarmed. To my mind that ought to be expected. It *looks* just as if a lot of queen-cells, where the queen can not get at them, would be an almost sure swarm-promoter. Page 397.

HINTS ON BISULPHIDE OF CARBON.

Bisulphide of carbon, as described to us by Prof. Cook, on page 390, is not the stuff some previous writers caused us to think that it was. *Don't* pour it upon your food, or your clothes, or your person. I may add, from the book of my own foolishness, don't pour a lot of it into a well, thinking to sweeten up its ill-smelling water.

THE LITERARY FIGHTER.

The picture of the home and apiary of Thaddeus Smith (page 417) has a melancholy interest now that he has passed over to the other shore. His antagonism to one of our most cherished ideas—well, we are glad now that on our part the antagonism was no sharper than it was. A twinge of *something* (can it be regret?) comes when I remember that he *thought* I was a little too severe. Paul indeed said, "So fight I, not as one that beateth the air;" but we must also be able to say, "So fight I, not as one that smiteth his fellow servants."

THAT PAPER HONEY-HOUSE.

Apparently F. L. Thompson's paper honey-house has to be tried—and condemned, and accepted and laughed at, and praised, and be put through all the chequered experiences common to novelties. For some locations and uses I incline to think well of it. Light it by having one or more sections of the sides made of muslin—double, with air-spaces between, if a specially warm shanty is desired. So much easier to keep it bee-tight than a board shanty, is one prime good point. Still, if you trust honey in it at an out-apiary it will get punched, and the bees will carry all away in your absence. Page 428.

HONEY OF CIVILIZED AND NATIVE BEES IN BRAZIL.

Honey of the civilized bee to eat, and honey of a little native bee to make medicine of, is the way they fix things in Brazil, it seems. Said little native is kept to some extent. We get to thinking that quality in honey all comes from the flower; but in Brazil, where they have a dozen or more species of nectar-storing insects, the influence of the gatherer is too plain to be ignored. The honey is good, bad, or indifferent, according to the little paws and pipes it has come through. Page 438.

THE GASOLINE CAN FOR WORMS.

One of the very best little inventions of recent years—is the way I incline to put it. And all about what, sure? Why, Miss Emma Wilson's oil-can full of gasoline for worms. We (at least I) have been inspecting combs for years; have been picking out, or smashing in, or cutting away, as the case might be. Slow, disgusting, unsatisfactory work, and very apt to leave many of the larvæ alive, even when we had killed 'em our prettiest. The gasoline slaughter-machine promises to make clean work where it goes, and to go much more rapidly than fingers and forks. Page 437.

BISULPHIDE OF CARBON TO PREVENT GRANULATION.

Yes, Mr. Davenport, find out, for it is an important thing, whether treating honey to bisulphide of carbon vapor does actually prevent granulation in the combs, or whether the one case you experienced was fortuitous. Seems to me we *have* had complaints that the vapor damaged flavor. Or is my memory at fault? Must not expect to transform the character of a thing without at least the possibility of transforming the taste also.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

The Premiums offered this week are well worth working for. Look at them.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Perhaps a Scarcity of Bees.

1. I had black bees in a box-hive, and drove them into an 8-frame dovetail hive. Then I waited until the bees hatched, when I put them, with their old combs, in the dovetail hive, and gave them eggs and hatching brood from a golden queen. They reared a queen from the first brood hatched, but since then ⅔ of it has died in the larvæ state. There is no odor or ropiness, it just dies and dries up. The brood that is sealed hatches all right.

2. I reared 2 golden queens, and made nuclei; one shows dead brood, and the other one does not. There are very few bees here, and no disease anywhere around. I used new hives, and full sheets of foundation, bought queens and made the nuclei. My old bees are all sound. Now, what is the cause? and what shall I do? PENNSYLVANIA.

ANSWER.—It looks a good deal like nothing more than a scarcity of bees. If there are not enough bees to care fully for all the brood, the sealed brood will continue all right, but some of the young brood will be starved. If my guess is right there is nothing to be done now, as by this time no more brood will be dying.

Is It Foul Brood?

I would like information in regard to disease that has attacked some of my colonies. Last summer I noticed a weak colony that had lots of brood that died before it matured. This dead brood was brown in color, but did not smell badly, neither did it adhere to a toothpick if stuck into it. The colony was rather weak in the spring, and had to be fed, but it cast a swarm late in the season. This young swarm acted in the same way, only there was not much dead brood, but it did not store any honey, and finally swarmed. I put them back several times, but they would not stay, so I put them with another colony. I do not know whether the colony I have described before is the one I united those bees with or not. I know it was a weak colony when I took it from winter quarters, and I fed it partly-filled sections of honey on top in a super, and put a blanket over them; but we had a very cold spring and I believe the brood got chilled.

Please let me know what you think of it, and how to find out whether it is foul brood or not. MINNESOTA.

ANSWER.—In a matter of so much importance one cannot be too active in taking precautions, and a wise thing would be to send in a tin box a sample to Dr. Wm. Howard, Fort Worth, Tex., with a fee of $2, and then you can know something definite.

Italianizing—Preventing Swarming—Uniting Nuclei.

Being desirous of Italianizing my apiary, and not feeling myself equal to rearing queens, nor wishing to purchase all I need, I concluded to try a plan which I have not seen described, but would like to have your approval or opinion as to its practicability.

To try my plan I took several colonies of black bees, that failed to give any surplus this season, and removed their queens. Then I took out all the combs containing brood or eggs and exchanged them for a frame of brood from a colony of Italians.

1. As they have no queen, and only Italian eggs, will they not rear an Italian queen?

2. If so, how will she be fertilized, as all the drones were killed off more than a month ago? Are there likely to be drones flying from other apiaries?

3. If more than one queen is reared by each colony, to which I have given brood or eggs, how can I preserve them from being killed? I would use them on other colonies of blacks.

4. How can I tell when to take measures to prevent a colony from swarming?

5. If nuclei are formed in the spring, and some of them do not build up to more than 3 or 4 frames, what do you advise doing with them? Unite, or carry over the winter by feeding. MISSISSIPPI.

ANSWERS.—1. You will not be able to tell any difference between the queens reared from Italian brood in the way you mention, and those reared by Italian bees.

2. I suspect you're fooled as to all the drones being killed off in your apiary; but if they are, there is little doubt that neighboring apiaries will supply them.

3. Only one queen will likely be reared in each, unless the colony is strong enough to think of swarming, for the first queen that emerges will kill all her royal sisters in their cradles. If you want to get more than one queen from each, take away the cells nine days from the time the brood was given, and give to nuclei.

4. By looking in the colony to see when queen-cells are first started.

5. Either dynamite or gunpowder would be a good thing to blow up any nucleus started in spring that failed to build up by winter, unless it was started too weak to have any chance, and then the bee-keeper needs—to be told to unite the weaklings, unless he is anxious to save the queens, in which case he may feed up and try to keep them over separately.

Sweet Clover—Foul Brood.

1. If I sow sweet clover in the spring of 1903 it will not bloom until 1904. The following winter it will die, and if it does not bloom until the second season of its life, how will it produce any bloom in 1905?

2. Would ½ acre of sweet clover do much good for 25 colonies.

3. How long will a colony of bees live after they take the disease called foul brood?

4. Will they ever appear to get better?

5. Will they ever swarm?

6. Will they ever work in the supers? If so, would the honey be wholesome to eat?

ANSWERS.—1. I don't know of any possible way by which you can have bloom in 1905 from sweet clover plants that started from the seed in the spring of 1903. If you want bloom in 1905, the plants must begin their growth in 1904.

2. Yes, indeed.

3. There is no definite rule about it; they may be finished up within a year, and they may live several years.

4. Yes, if the disease is not very bad it may appear to be almost gone in a big yield of honey, but it's only fooling; it will be faithful about coming back again.

5. Yes, sometimes.

6. Yes, and the honey is not injurious to the human stomach, although death to a healthy colony of bees.

One Colony Joining a Neighbor Colony.

I may be taking up your time with something that other bee-keepers know all about, but the incident is entirely new to me.

I have a few colonies of bees, all numbered; the other morning my little boy came running to me with, "Papa, No. 5 is robbing No 4." I found, when I got there, that there was no robbing going on, but a solid line of bees as wide as two fingers going from No. 5 into No. 4. These two hives stand on a platform holding 5 hives; they are about 4 feet apart. The bees in No. 4 made no objection whatever, and as long as they were satisfied I was, so I stood and watched them migrate until a fair-sized swarm had passed into No. 4. No. 4 was a small colony that I had made about 4 weeks before, and was not very strong, but had a nice lot of capped brood ready to hatch. There has been perfect harmony in No. 4 since the addition, and they are working nicely.

I have handled bees quite a number of years, and have read the most of the bee-books, but I don't remember ever having seen a like incident recorded. ILLINOIS.

ANSWER.—You do not say anything about the condition of No. 5. If No. 5 was in good condition, having a laying queen, the case is one perhaps unlike any previously reported. But if No. 5 was queenless, it is not such an

unusual case, except that it is very unusual for bees to pass over so much space as four feet. Even if the hives are four feet from center to center, they passed over a pretty long journey to be made on foot.

Virgin Queen.

1. How soon can a virgin queen's wing be clipped after she leaves the cell?

2. How soon will she commence to lay?

3. Will she mate if her wings are clipped as soon as she leaves?

4. How often do they mate?

5. How would it work to put the entrance-guards on during the swarming season, and not allow the queen to go with the swarm at all?

6. Are the queens mated that are sent out? Is it safe to clip their wings as soon as they are received?

IOWA.

ANSWERS.—1. A queen should not be clipped till she begins to lay.

2. She will lay at the age of ten days, sometimes sooner and sometimes later than that.

3. No.

4. Once.

5. It works all right if you take the proper care afterward. It will not do to leave the entrance-guard on permanently. The old queen must be allowed to take her wedding-flight.

6. Yes, unless it were specially stipulated otherwise, no queen-rearer would send out a queen that had not already commenced to lay, at least no honest one would. It is safe to clip the wing of any queen that has begun to lay.

Prevention of Swarming.

On page 499, under the heading "Prevention of Swarming," you say that you never knew of a colony of bees, after they had reared a queen and she had commenced to lay, to swarm that season. Now, if I understand the meaning of that item, I have had just such an experience this season. About May 20 I made a nucleus for 2 frames of brood, and all adhering bees, from a strong colony; they reared a queen, and in about 10 days after starting the nucleus I gave them 2 more frames of brood, but no bees, and in due time the queen commenced to lay, and, as soon as she got to laying well, I commenced to spread the brood until she had an 8-frame hive full, and they increased very fast. I gave them a super (shallow one) of drawn extracting-combs, and on August 5 they cast as fine a swarm as I have had this season; they stored a little honey in the combs, on top, but not to amount to much. They were given full combs all the time to work on, so they did not have to draw out any. The queen is from good Italian stock, but is mated with a black drone. I think this covers the case. If I am mistaken please let me know. ILLINOIS.

ANSWER.—Referring to page 499, I find I am quoted as saying that one way to prevent swarming was to get the bees to rear a queen about swarming-time, and when a colony has itself reared a young queen (of course about swarming-time, as before mentioned), I never knew or heard of such a colony swarming till next year. The case you mentioned does not come within the requirements I have given. The queen was reared in a *nucleus*, not in a colony, and then with some aid it grew to a colony. It is possible there may be an exception to the rule given, but it was given by a man of no less experience than the lamented C. J. H. Gravenhorst; but you will notice that the young queen must be reared *in a full colony* about swarming-time.

A Failing Queen—Queens in the Mails.

1. July 10 I had a very strong colony to swarm, and in due time the young queen was mated, and she laid only a very small patch of eggs in 3 combs, and she has not, or will not, lay another egg. All the brood has hatched, and not a sign of an egg is to be seen in the combs. The queen is very small. Why is it that this queen will not lay any more? Do you think she will lay in the future?

2. I have some queens that are 3 years old. Would you remove them and introduce young queens? These old queens are extra-good stock.

3. Do you know of any queen-breeder who can rear queens fully equal to natural-swarming queens? If you know of such a breeder, name him; I want to buy such queens. The queens that I buy are worth about as much as a one-cent postage stamp, and it cancelled.

4. Do you know that the American Bee Journal is the best paper published? WEST VIRGINIA.

ANSWERS.—1. I don't know why she should fail in such a sudden manner, but there is probably no hope that she will ever be good for anything.

2. A queen is never old enough to kill so long as she is doing exceptionally good work.

3. I suppose a number of them can, but it would hardly be the right kind of advertising to give their names here. It is possible, however, that no queen that reached you is as good as when mailed. The handling of mail pouches is worse in some places than others, as when a pouch is thrown from a mail-car when the train is going at the rate of 40 miles an hour, and all queens received by you through the mails may have an unusually rough experience.

4. Well, now—that is—you see, if I should say yes, the editor would have to get a new hat of a larger size; if I should say no, he'd get mad and hire some other fellow to answer these questions, and then I'd lose a lot of fun. I don't quite like to say I don't know, so I'll say I'm keeping it a secret.

Fastening Bees in Hives in Winter.

Do you think it is advisable to fasten bees in with wire-screen in winter, to keep mice out? I did that last winter but my bees were very uneasy. I carried them out-of-doors several days but that would only content them for a short time; they would come out and fill the entrance. They seem to be doing very well this summer. Of course our text-book tells us we must have our cellar mice-proof, but as we cannot all be so fortunate I would like to have some advice.

IOWA.

ANSWER.—It's all right to keep mice out with wire-screen, but all wrong to keep bees in. Use heavy wire-cloth with three meshes to the inch, and the mice will be kept out without fastening the bees in.

Dragging Out Young Bees.

I found your answer to my question, on page 473, regarding the whole destruction of "young bees" (I note your destruction to my term "brood"), and was disappointed that you could not explain it. At the time I wrote I forgot to say that not only were the young bees driven from the hive, but in many cases their wings were cut off, not a vestige of a wing to be seen, but in cases where there were wings there was no tremulous motion as you describe indicating paralysis. It could not have been from poisoning or there would have been old bees crawling about as well. It seems strange that you have never met with nor heard of such a case in your experience.

The colony I wrote you of, to which I gave an Italian queen, now has young Italians in the field, and yet occasionally I see a grown bee come out dragging with it a kicking, struggling Italian youngster, and either flies away with it or drops it near by. CALIFORNIA.

ANSWER.—I am sorry to say that I can do nothing more than to confess ignorance, and will be glad to yield the floor to any one who can help out. The mutilated wings suggest the work of wax-worms, but on page 473 you say "all are perfectly free from moths," and paralysis and poisoning are now ruled out. Can any one of the numerous American Bee Journal family give any hint as to the trouble of our good friend?

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

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GENERAL ITEMS

Prospect for a Good Fall Flow.

We had a very wet spring, but through June and the first half of July the bees stored steadily.

My 19 colonies, spring count, increased to 32 by natural swarming, and have stored almost 1000 finished sections to date.

A week ago it was dry and hot here, the bees had been out of a job for nearly a month, and corn and hay were drying up, but it has rained almost every day this week, and the prospect for a good fall flow of nectar is promising. W. H. MEANS.

Greenwood Co., Kan., Aug. 23.

Buckwheat Harvest at Hand.

Our honey harvest has arrived. Field after field of buckwheat is white with bloom, with acres still to come in bloom. My bees are doing splendidly, are storing in the supers very fast, and I have the second super on almost all of my colonies. I think the honey-flow will continue for about three weeks yet, as the farmers were kept back on account of the wet weather, some sowing as late as the first of August—something I never knew of their doing before. As it takes from five to six weeks to bloom, our honey harvest should continue well into September.

J. A. McGOWAN.

Butler Co., Pa., Aug. 22.

Honey Crop Will be Short.

We had 4 colonies of bees, spring count, and increased to 12 by the first of July. A prime, or first swarm, that issued June 13, cast a swarm Aug. 16. They clustered about one hour, and then left for the woods. I was not at home at the time, and was not thinking about swarms at this time of the year, so I was not prepared. It was the first swarm I ever lost in any way.

The crop of surplus honey will be short on account of the wet weather. There was plenty of white clover, but the bees did not work on it very much. GEOFFREY A. HUNT.

Tipton Co., Ind., Aug. 25.

Beating Nature at Queen-Rearing.

Prepare the colony by removing the queen and all unsealed brood. In four or five hours give them cell-cups primed with royal jelly, and supply with larvæ not over three days old, and feed abundantly from four to five days. By so doing you will have long-lived queens and workers. In my 23 years' experience I have watched the nature of bees. I find in a colony left to Nature's way, colony No. 1 swarmed with 3 capped queen-cells and 5 unsealed cells. Colony No. 2 swarmed without having started any queen-cells. Colony No. 3 swarmed with 2 sealed queen-cells, and 5 unsealed cells, and 2 unsealed cells started on drone-brood. Why should Nature make a mistake by starting queen-cells on drone-larvæ? ARTHUR STANLEY.

Lee Co., Ill.

Bees Did Well—Bee-Martins.

My bees have done well for this bad season, and are still at work. I had two prime swarms last Saturday, and two on Monday.

I wonder if I am a member of the American Bee-Keepers' Association? I sent Mr. Secor my dollar, but do not know for sure whether I was black-balled or not.

I want to tell you something about the bee-martin, that may be new to a great many bee-keepers. They are rightly named bee-martin—king-bird may be something else. The bee-martin will locate on a dead limb of a tree, on a high post, or on the comb of the house, near the bee-yard, and if you will watch him

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

Tennessee Queens

Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3¼ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st

Send for circular.

JOHN M. DAVIS,

14A26t SPRING HILL, TENN.

$8 50 Cleveland and Return. $8.50

on Sept. 26th and 27th, via Nickel Plate Road. Return limit of Oct. 28th may be obtained by depositing tickets in Cleveland. Three trains daily, with vestibuled sleeping-cars. American Club Meals, ranging in price from 35 cents to $1.00 in dining-cars. Also meals a la carte. City ticket office, Chicago, 111 Adams St. For detailed information address John Y. Calahan, General Agent, 113 Adams Street.

45—36A3t

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We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.20	2 30	5.50	10.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

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Full Line of Supplies,

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GUS. DITTMER, Augusta, Wis.

very closely you will notice that he acts very much like a dog in fly-time, snapping at flies above his nose and head. The martins attract bees to them similar to the way the dog draws flies. How? Well, I will tell you:

When God made man he provided for him—see? And when he made the martin he placed a nice, little, saffron-colored flower in the center of his head, and covered it over with a few long feathers, hinged to the scalp, that can be raised or parted. This pretty flower is seen by the bees a long way off, and when close enough almost to alight on the flower the bird throws up his head, makes a few quick snaps, and all is over—and the trap set for the next victim. These birds used to eat thousands of bees, no doubt, in by-gone days, but in late years they have all been chased away by the English sparrow.

Now, I suppose Prof. Cook and others will laugh at this as a poor joke. To all such I say, shoot one and examine his head closely.

Peoria Co., Ill., Aug. 28. W. P. TURNER.

[It would be very easy to find out as to your membership, Mr. Turner, by writing to the General Manager, Mr. Eugene Secor, of Forest City, Iowa. He is the only man that can give you a definite answer.—EDITOR.]

Storing After Aug. 10—Kaffir Corn.

On page 556, J. A. Watkins wants to know if it is not a fact that bees do not gather any honey after Aug. 10, in any part of the country, and the Editor wishes some one to answer. Two years ago I did not get any surplus honey at all until after that date, and had one colony that gave me 96 sections of nice comb honey, another 72 one-pound sections, and several that filled two supers of 24 sections each; and they gathered honey until the first heavy frost, about Oct. 10.

We are right in the midst of the honey-flow—heartsease, goldenrod, sunflower, and various plants are in full bloom, with plenty of moisture to date. If the frost holds off I expect some of my colonies to equal those of two years ago.

If you want something to yield pollen in the fall, just sow two or three acres of Kaffir corn about June 1 to 10; the white variety is preferable, as it has larger heads, and, when it begins to head out, you will think your bees have all left their hives, by the hum they make in that field of Kaffir corn. It will pay you in feed, too, if you have horses, cattle or sheep to feed.

The American Bee Journal is all right, and no bee-keeper should be without it.

J. M. LINSCOTT.

Gage Co., Nebr., Aug. 28.

A Comment on Queen-Rearing.

I note what has been said about artificially-reared queens, and queens reared under the swarming impulse, Dr. Gallup claiming the latter to be much superior to the former, while Mr. Alley claims superiority for the artificially-reared queens. Dr. Gallup's articles contain much which I heartily endorse. Mr. Alley, backed by 40 or more years experience, likewise is correct, and I have every reason to believe that if these two gentlemen were to spend a season in the same apiary rearing queens, their views on queen-rearing would harmonize.

Of late years I have come to the conclusion that there are three factors which must be present in rearing good queens, viz.: To have the cells started with the proper-sized larvæ; an abundance of royal jelly; and, last but not least, to have the cells reared and hatched in the proper temperature. These are the three essential elements to rearing good queens; should either one be absent, poor queens will be the result.

Great care must be taken in handling cells until maturity; not that shaking the cells will break the young queen's neck—the injury is not caused by the sudden jerk exactly, but it has the effect of shaking the embryo into the cap of the cell, and there it will simply starve, no difference how abundant the supply of jelly has been.

I have noticed that in cell-building a larva will drop down out of the jelly; the bees, in

Bee-Keepers—Attention!

Do not put your money into New Fangled Bee-Hives, but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

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27 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 27 cents a pound—CASH—for best yellow, upon its receipt, or 29 cents in trade. Impure wax not taken at any price.

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CRATES OF TWO 60-lb. CANS, been used once, in good condition, in lots of 5 crates, 40c each; 10 or more, 35c. This lot is limited; order at once.

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BUCKEYE STRAIN 3-BANDED are the genuine RED CLOVER WORKERS. MUTH'S STRAIN GOLDEN ITALIANS can not to be surpassed. Either of above, 75c each; 6 for $4.00. Selected tested, $1.50 each.

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Queens Now Ready to Supply by Return Mail

Stock which cannot be excelled. Each variety bred in separate apiaries, from selected mothers; have proven their qualities as great honey-gatherers.

Golden Italians Have no superior, and few equals. Untested, 75 cents; 6 for $4.00.

Red Clover Queens, which left all records behind in honey-gathering. Untested, $1.00; 6 for $5.00.

Carniolans —They are so highly recommended, being more gentle than all others. Untested, $1.00.

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their efforts to get it back, will keep on drawing out the cell, until sometimes it is twice the natural size; such a cell will never hatch. Whenever I handle cells, and if by accident I should jar them so that I think any of the larvæ have dropped in the caps of the cells, I simply reverse the stick of cells and gently shake the larvæ down into the jelly again. At one time I thought it quite necessary to shake all cells to get the bees off, and when doing so I always reversed the stick and shook back what larvæ might have dropped out of the jelly; and I never had any trouble in the cells hatching.

It is now quite evident to me that there are many poor queens due solely to the fact that they do not get all the benefit of the jelly placed in the cells for them.

The above is simply one inkling of the many, showing why sometimes poor queens result from what appears to be a nice batch of cells.

The subject is altogether to inexhaustible to be thoroughly discussed in one or two issues of a bee-paper. H. G. QUIRIN.

Erie Co., Ohio.

Bees Have to Loaf.

It has beeu a backward season here. I had to feed my bees in June to keep them from starving. We have not had a pound of surplus honey this season. It looks as if we might get a little surplus from the heartsease, as the bees have just commenced to work on it. It rains every other day, so they have to loaf, like the farmers. ADAM WINROW.

Scott Co., Iowa, Aug. 27.

Late White Clover—Moving Bees.

White clover has bloomed later this year than ever was known in this locality; however, but little honey was obtained from it. The prospects are, that there will be a heavy bloom next year.

Bees have done moderately well here all the season through, but have swarmed entirely too much—just enough honey to keep brood-rearing under good headway, aod to keep the bees swarming. The hives are full below, and but little surplus has been obtained, owing to so much swarming.

Next week is our State Fair—Aug. 29 to Sept. 5—to be held at Lincoln. Superintendent Whitcomb is expecting a big show this year in the Apiary Department. Some very handsome premiums are offered by the managers.

Last spring we moved our entire apiary two miles nearer town. Moving in March, the weather was rather cool, but the roads were smooth. The hives were all still packed with their winter packing. The entrances were closed, and then the hives were set in a wagon, one on top of the other, and all were moved in safety to their new location without the breaking of a single comb, or losing a colony. They were moved so carefully that the bees did not seem a bit restless, or hardly notice their removal. J. M. YOUNG.

Cass Co., Nebr., Aug. 27.

Results of the White Honey Season.

The story is told, the tale is ended, for the season, so far as the white honey crop is concerned. The season has been a most peculiar and unnatural one. The bees broke all known rules in regard to swarming, and almost everything else, for that matter. The season was a cold one, but it kept me warm the most of the time to handle them; in fact, they got the upper hand and were boss for awhile. But by putting in from 16 to 24 hours a day I soon got on top, and kept there.

The crop was light, but I got enough to buy food and clothes for another year, and will also be able to lay up a few hundred dollars for the long, rainy days that may come some time. So things might have been worse than they were.

Fall flowers have been in bloom for some time, and the bees appear to be doing a good business, but I have examined a number of hives and find they are barely making a living.

I have just finished delivering 7000 pounds of honey in a city 20 miles distant; it was hauled by team over rough roads, but not a comb was broken.

What has been said about queen-rearing lately is interesting, to say the least. I have just read, and had a hearty laugh over, Editor York's comments on the Wisconsin ex-bachelor who imported a "queen" of superior stock!

But now, when some of the highest living authorities disagree point-blank on the best methods of rearing queens, what are we common bee-keepers to do? We have to rear our own, for, according to Dr. Gallup, what we can buy are worthless. I hope Mr. Alley will give us his latest method. What he has said so far has kind of jarred me. Editor E. R. Root takes the matter cooly and calmly, and points out that somewhat different methods may be best according to conditions, but he does not devote much space to this matter, for he seems to have his hands full defending Mr. Gandy's recent assertions.

Well, I must quit and go to cutting grass and weeds around the hives again. I kept the entrances clear during the flow, but lately the bees in many of the hives have to crawl up the front and climb on the cover before they can fly away. It has been a great year for grass and weeds to grow.

C. DAVENPORT.

Southern Minn., Aug. 25.

Short Crop Expected.

After the heat and drouth of last summer I prepared 30 colonies of bees for winter on the summer stands. Twenty-nine of them wintered nicely, but 3 of them dwindled away, the spring being so cold and backward, as has been described in so many of the reports.

I fed the bees until fruit-bloom, and from that time on they were able to make a living. We had considerable rain and very cool weather, but they began swarming the last of May: it kept raining, and they kept swarming; sometimes two or three swarms would go together, and I would hive them, and they would go to work as though there was only one.

There was basswood and white clover in abundance, but it rained so much that the white honey crop here is rather short. My honey crop is still an unknown quantity; the late honey is just coming; the bees are working nicely, but it rains very often. The honey season is short here, and very late this year. We are afraid of being overtaken by the frost. MRS. PAUL BARRETTE.

Crawford Co., Wis., Aug. 20.

Long-Lived Queens.

I have succeeded in getting more honey and of better quality than any of my neighbors, and it is the reading of bee-books and bee-papers that has enabled me to do so.

Since reading Dr. Gallup's articles on "How to Rear Long-Lived Queens," I had a chance to examine 25 queen-cells the bees built after the queen was removed, and I found little threads running from the abdomen of every queen and fastened to the side and base of the cells.

I have some queens going on their fourth year, and, so far as I can tell, they do not show any signs of failing yet. They were reared by the Doolittle plan. A queen that is poor any way is not allowed to live in my apiary, because poor queens make poor colonies, which are unprofitable.

CHESLEY PRESSWOOD.

Bradley Co., Tenn., Aug. 25.

Getting a Bee-Tree.

I will give you a description of an adventure I had out of town the other evening, when we went to get a bee-tree, which we brought all right. We cut the tree down, plugged the hole where the bees went in and out, sawed off the lower end as well as the top, and brought home the chunk with the bees. It was about 4 feet long, with a cavity about 12 inches in diameter, and 3 feet 6 inches long. We sawed the lower end as close to the comb as we could without harming the comb. The bees were very well

—ITALIAN—

BEES AND QUEENS!

We have a strain of bees bred specially for honey-gathering and longevity. We feel confident of giving satisfaction.

PRICES:
for the remainder of this season:

1 Untested Queen .....$ .60
1 Tested Queen ..... .80
1 Select Tested Queen ... 1.00
1 Breeding Queen 1.50
1-Comb Nucleus, no queen 1.00

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or $8.50 to Cleveland, Ohio, and return via Nickel Plate Road, Sept. 26th and 27th, with extended return limit of Oct. 28th by depositing tickets in Cleveland. First-class equipment and service. Three daily trains. Chicago Passenger Station, Harrison St. and 5th Ave. Write John Y. Calahan, General Agent, 113 Adams St., Chicago, for particulars.

46—36A3t

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.

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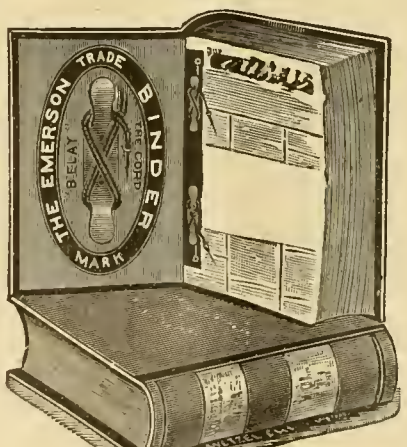
The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

marked Italians, and we had no trouble with them coming out; they clustered up in the top of the cavity, and stayed there. The man who found them has had blood in his eye ever since, and has been out on a still hunt for the man who reported the matter to the village editor; and he says he will turn the bees loose on him when he finds him (but that will not scare me any). The bees are doing well, and I think I will buy them before he finds his man, and then I will give him the laugh.

I am very glad I had the honor of superintending the getting of the bees, and I think I will transfer them in a week or two. I was very glad Editor C. R. Mellenry, of our local paper, took as deep an interest in the affair as he did, for, by his writing the article, of which I send you a copy, he has caused the people to take more interest in bees and honey. I am positive that it has helped the cause a great deal. CHAS. MARTIN.

Ramsey Co., Minn., Aug. 26.

[The item referred to was quite well written—and all right for a local newspaper, but hardly of sufficient interest to our readers to copy in these columns. But thank you for sending it, Mr. Martin.—EDITOR.]

Wet and Cool Weather.

I have been exceedingly busy this season looking after 100 colonies, spring count, and doing carpenter work. I get the money from the latter, and the experience from the former.

It has been extremely wet and pretty cool. We had a good honey-flow for about a week the first part of July, but the bees have been getting only enough to keep up brood-rearing since. We still hope for winter stores, but may not get them.

I have been rearing queens since 1891, and never had as poor luck; I could not induce good work in upper stories, after having fed for weeks. I can get larger cells, and I think better queens, by using queenless bees. I have been a close observer, and have seen a good many things that look strange—drones with white heads, drone head, thorax and wings with *worker bodies* and *stingers*. Had a lot of the latter caught to send in last fall, but did not. I have studied the tent-mating problem for over 10 years, but have not tried it yet; I may some time.

I had expected to go to Denver, but the honey will not pay the bill.

I will try to give a full report later, if I can find the time. I dehorn cattle during the winter, taking the horns from 2657 last season, and one season from 3056. It is surer pay than bee-keeping, but harder work.

THEO. S. HURLEY.

Tama Co., Iowa, Aug. 25.

CONVENTION NOTICES.

Utah.—The Utah Bee-Keepers' Association will hold the annual convention in the City and County Building, Salt Lake City, Utah, Oct. 6, 1902, at 10 a.m. Business of interest to all bee-keepers will be presented. All are invited.

J. B. FAGG, Sec.

CLOSE SATURDAYS AT 1 P.M.—Our customers and friends will kindly remember that beginning with July 1, for three months we close our office and bee-supply store at 1 p.m. on Saturdays. This is our usual custom. Nearly all other firms here begin the Saturday afternoon closing with May 1st, but we keep open two months later on account of the local bee-keepers who find it more convenient to call Saturday afternoons for bee-supplies.

SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.
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Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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DAIRYMEN ARE DELIGHTED to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
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Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
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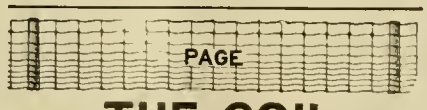
Wanted—Extracted HONEY
Mail sample, and state style of package and price delivered in Chicago.
John F. Campbell, 53 River St., Chicago, Ill.
34Atf Mention the American Bee Journal.



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100 Colonies of leather-colored and Golden Italians for sale in 9-frame hives, on Langstroth Hoffmann standard frames. My leather-colors have again taken 1st premium at the Minnesota State Fair this year, same as they did last year. Delivery at any time before winter. (Ample stores guaranteed): Singly, $5; in lots of 20, $4.50 each, on car.
W. R. ANSELL,
37A1t Mille Lacs Apiaries, MILACA, MINN.

Queen-Clipping Device Free....
The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,
GEORGE W. YORK & COMPANY,
Chicago, Ill.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 11.—Some comb honey produced in 1902 is now on sale. Fancy brings 15c; anything off in appearance or quality sells at 13@14c for white; amber grades, 2 and 3 cents per pound less. Extracted is selling at 6@7c for white; light amber, 5½@6c; dark, 5@5½c. There is a fair demand for all grades and kinds. Beeswax steady at 30c. R. A. BURNETT & CO.

KANSAS CITY, Aug. 30.—The demand for comb honey is good. The receipts are not large. We quote fancy white comb, 14c; No. 1, white, 13@13½c; No. 2, 12@13c. Extracted, white, 6c; amber, 5@5½c. Beeswax, 22@25c.
C. C. CLEMONS & CO.

CINCINNATI, Aug. 30.—The demand for comb honey at present is very good; all shipments are sold quick at 15@16c for No. 1 and fancy. We advise shipping while demand is good and before the western carloads are here. In three weeks from now carloads will arrive, then demand is satisfied, sales harder to make, and prices demoralized. Extracted honey is selling as fast as it arrives, at the following prices: Amber and Southern in barrels, at 5½@6½c, according to the quality. White clover, 7½@8c. Beeswax is scarce at 30c.
THE FRED W. MUTH CO.

ALBANY, N. Y., Aug. 22.—The demand for honey is improving with the unusual cool weather, the summer resorters returning home hungry. We quote: Extra white comb, 15@16c; medium, 14@15c. No other grades coming yet.

We want to caution shippers against shipping by express, as it arrives almost invariably broken. Express companies are stamping the cases "Received at owner's risk," which seems to cause their employes to "play ball" with it. Freight handlers are slower, more careful, and less broken, and much cheaper. We advise sending by freight only. H. R. WRIGHT.

NEW YORK, Aug. 11.—New crop comb honey from New York and Pennsylvania is beginning to arrive in limited quantities. There is a good demand for fancy white at 14c, and No. 1 at 13c, and exceptionally fine lots will possibly bring a little more. Lower grades quiet at from 10@12c. As to extracted honey, fancy grades are in good demand at from 6@6½c for white, and 5@5½c for light amber. Southern in barrels and half-barrels quiet at from 47@60c per gallon, according to quality. Beeswax dull at from 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Aug. 29.—New comb honey is not coming in so plentiful, so far. Whatever has come in, and is fancy water-white, has brought a good price, and sold to stores at from 15@16c. Honey kept over from last year, fancy sells for 14c. The market for extracted is more lively and brings: Amber, from 5@5½c; alfalfa water-white, from 6@6½c; white clover, from 7@7½c. Beeswax, 28c. C. H. W. WEBER.

SAN FRANCISCO, Aug. 20—White comb, 13@14c; amber, 10@12c; dark, 8@9c. Extracted, white, 5¼@5½; light amber, 5@5¼; amber, 4¼@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

Not much offering or arriving of any sort. While the market is firm throughout, current values are being better sustained on comb than on extracted, for the reason that the latter has to depend to some extent on outside demand. All the comb honey offering will be required locally. The shipment of comb honey has never proven satisfactory, and the production is in consequence restricted to small compass.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., SEPT. 18, 1902.

FORTY-SECOND YEAR
No. 38.

WEEKLY

APIARY OF WM. HOUSEL, OF MONMOUTH CO., N. J.
(See page 602.)

A STANDARD-BRED

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As the supply of these splendid Queens is limited, we prefer to use all of them as premiums for getting new subscribers. But if any one wishes to purchase them aside from the Bee Journal subscription, the prices are as follows: One Queen, 75c.; 3 Queens, $2.10; 6 Queens for $4.00.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., SEPT. 18, 1902. No. 38.

Editorial Comments.

The Denver Convention was held as announced, Sept. 3, 4 and 5. While it was not as largely attended as expected, it was a good meeting. The election of officers for 1903 resulted as follows:

President—W. Z. Hutchinson, of Michigan.
Vice-President—Jas. U. Harris, of Colorado.
Secretary—George W. York, of Illinois.

As soon as we can begin it, we will publish the report of the convention in full in these columns.

When to Cut Alfalfa.—M. A. Gill, in the Bee-Keepers Review, thus earnestly enters a protest against the idea that for best results in hay alfalfa should be cut before it comes into bloom. He says:

I say again that it is *not* a fact that alfalfa cut before it comes into bloom makes the best hay; and I know of many careful, thoughtful farmers who were once led into that practice, but who are now letting their alfalfa stand until it reaches that certain stage when it contains, and will retain, the most food-value.

Some years ago the Experiment Station of New Mexico, carried on a series of experiments to find out at what stage of development the alfalfa plant would make the most pounds of the best hay. As I understand it, they made four cuttings of the first crop. First, when about half grown; again just before it came into bloom; then while in full bloom; and again after it had gone to seed.

They then took four bunches of steers and fed them the same number of pounds from the four different cuttings, and weighed each bunch of steers every five days during the experiment, which lasted some 60 days.

He also thinks there is no danger that the alfalfa honey crop of the future will be any less important than it is now.

Number of Extracting-Combs Needed.—A wide difference prevails as to this in practice. A uses a single story of extracting-combs for each colony, extracting as often as necessary. B adds stories as often as needed, and does not extract a pound of honey till the season is over. If the harvest is at all large, B invests a good deal in combs that A saves—a saving that B considers very poor economy. A must necessarily extract before all combs are sealed, for after the combs are filled it will be some time before all of the honey is ripened sufficiently, and most bee-keepers can hardly compete with the bees in ripening honey. So storing will be hindered while awaiting the ripening and sealing. Then, when the combs are extracted and returned, there is some demoralization and no little delay; for the bees will not attempt to store in wet combs, and the combs must all be licked dry before any storing is done. In B's case there is no delay whatever. Before one story is filled another is put under, the work goes on steadily, and the honey is thoroughly ripened, and of the best quality. B considers himself well paid for the investment in extra combs.

If one has not a sufficient number of extra combs, it is not a difficult thing to use frames filled with foundation, or with starters. Some, however, will prefer to take a middle ground. When the first story of combs is partly filled, let another story of combs or foundation be placed under it. Then extract the first story when it is completed, and return the wet combs on top. If the wet combs are placed next to the brood-nest, the bees will not readily pass through them to store in the story above until the wet combs are cleaned dry.

Even if only one story of extracting-combs is used, it is probably not best to extract the whole story at once. When half the combs are completed, extract them, putting the wet combs back, not in the center of the super, but at the sides. The center combs will be ready for extracting a little sooner than if at the sides, and each time half the combs are extracted the wet combs are to be placed at the sides. The bees will thus be allowed to go right on storing without interruption. Of course, it will make a good deal more work than to have more combs.

Mr. Abbott Retires from the General Managership.—We have received the following from Mr. Abbott for publication:

EDITOR AMERICAN BEE JOURNAL:—In view of the good feeling and harmony which prevailed at the Denver Convention, and being desirous of doing all I can to promote the interests of the National Bee-Keepers' Association, I have concluded to retire from the General Managership for the present. So far as my future official relations to the Association are concerned, I am perfectly willing to leave this with the membership, as I have every confidence in the good intentions of the bee-keepers of the United States, and believe that they will see to it that no injustice is done any one.

During the time that I was actively engaged in the work of General Manager, 83 memberships were received, and 40 of these were new members, if I am correct. My short experience has shown me that there is a world of work that a General Manager can do, all of which will tend to promote the interests of every bee-keeper on the continent: and, while I have not changed my mind in the least as to the correctness of the stand I have taken, yet I feel that our energies would much better be spent in promoting the interests of our industry than in discussing in a harsh way differences among ourselves.

I think I have said before that personally I could co-operate with any member of the Board in promoting the interests of the Association, and in the future I shall be just as ready and willing to do it as in the past. The Board has an excellent and efficient Chairman, and I can see no reason why the Association should not continue to grow and be a great power for good. New fields are opening up every day. The Government of the United States is showing an interest in our work, and is making it manifest that it is willing to co-operate with us, so that all that is needed now is *a disposition to work* on the part of the officers of the Association and the membership at large, and great good can be accomplished in a very short time. What the world needs is more men and women who *do things*—who are willing to work as well as to write and talk.

I have forwarded to the Secretary a list of the names of those who have joined the Association through me, and accompanied the list with my check covering the amount of membership fees, less expenses, etc., and I trust that the statement sent therewith may be found correct. If not, I stand ready to make it so.

In conclusion, I want to thank a multitude of friends for letters and words of encouragement which have come to me during the controversy, and I desire to say that in the future, as in the past, they will find my voice, pen and hands ever ready to promote the interests of bee-keeping in the United States and Canada.

EMERSON TAYLOR ABBOTT.

It gives us much pleasure to receive the above communication. It shows a magnanimous spirit on the part of Mr. Abbott, which, no doubt, will be appreciated by all, and especially by the membership of the National Bee-Keepers' Association. It ends all controversy over the General Managership matter, and leaves the way entirely clear for action in December, when the annual election takes place. And, should Mr. Abbott be elected General Manager at that time, by a majority of the votes cast by the membership, we can all unite in quoting, "All's well that ends well." If he is not elected, the utmost harmony will still prevail, and the National Bee-Keepers' Association will continue to grow and be a useful institution for the benefit of bee-keepers.

Strong Colonies and Nuclei for Queen-Rearing.—In the effort to devise plans for rearing queens without too much expense, there has been a tendency, if not toward starting cells in other than strong colonies, at least toward having the cells given afterward to small nuclei. The current now seems to be starting in the other direction. Dr. Gallup has been emphatic in protesting in this journal against the use of weak colonies or nuclei for the rearing of queens. Editor Root says, "I don't like to come down on the small nuclei, but I believe that they will prove only a disappointment and a vexation of spirit for the *average* bee-keeper." Editor Hutchinson says amen most heartily to this, and adds, among other things, "Our nuclei must always be of such strength that they will be able to *take care of themselves*," without the danger of their being robbed out.

Really, when one considers the very great importance of having queens of the very best, it seems poor economy to try to save bees either in the colonies in which the cells are started or in the nuclei in which the cells are afterward placed. Supposed the entire time of a strong colony and a number of strong nuclei be lost. What does the honey they would have gathered signify, if thereby such queens are reared that their workers will store an extra amount sufficient to replace the loss of the colony and nuclei used in queen-rearing? And this they may do many times over.

But there is no such loss as generally seems to be supposed. Queenless bees do not sit in dead idleness. It is true that bees in a nucleus will not store as much in proportion as in a strong colony, but they are by no means idle; they keep at work, and when a young queen emerges from her cell the field-bees of the nucleus work with intense vigor, if anything can be had to work on.

It can hardly be emphasized too strongly that the queen is the most important factor of a colony, and that a very poor place to practice economy is in her rearing.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get them subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Convention Proceedings.

Report of the Texas State Convention, Held at College Station, July 16 and 17, 1902.

BY LOUIS SCHOLL, SEC.

(Continued from page 582)

AFTERNOON SESSION.

The convention was called to order at 2:30 p.m., whereupon Mr. Toepperwein talked on the subject of the

ADVANTAGE OF HAVING PROPER SUPPLIES, GOOD QUEENS, ETC.

He called attention to the advantages of frame hives over the old-style box-hive; and of the various dovetailed hives, of which the 10-frame size seemed best adapted to Texas localities. He preferred the Ideal super for all purposes, and those containing the ten shallow extracting-frames, for the production of extracted and bulk comb honey; for sections, the Ideal, or 3⅝x5½, on plain slats, with fences or separators, as these fill out the super better, and allow of more sections to each super.

It was thought that the Danzenbaker section super was a little better, in that it contained narrow sections, causing thinner combs to be built in them, which would be capped sooner.

The difference in depth in the different styles of supers was also discussed. The very shallow or 4¾ depth are too shallow, while a full-depth body is again too deep for tiering up, leaving the 5⅜-inch depth as the best super, and most satisfactory.

Mr. Newell asked if anyone had been able to prevent the bees from gnawing away the paraffin mats used above the Danzenbaker supers. As none present had used these mats, they could not reply.

QUEEN-REARING—CONDUCTING A QUEEN-BUSINESS.

Mr. Aten said that on account of the very dry seasons, which had been discouraging to queen-breeders, he had quit that phase of the business. Others were of the same opinion, and had to be coaxed to speak on the subject. Mr. Aten told why it did not pay to rear queens, on account of the fact that too many bee-keepers are already engaged in it, and prices have become so low that it is impossible to rear first-class queens at prevailing prices, and make a reasonable profit.

To this Mr. Victor said that Mr. Aten had hit the nail squarely on the head.

Mr. Aten uses the Alley plan of queen-rearing. Larvæ for this purpose should not be over two days old; and he insinuated that by grafting cell cups, as in the Doolittle method, there was danger of using larvæ that were too old, which would result in inferior queens. He takes a row of cells containing eggs and destroys the egg in every other cell. This strip or row of cells is then attached to the lower edge of the comb, cut out to receive it. By this method there is no danger of using larvæ that are too old. He makes his cell-building colony queenless on one evening and gives the prepared cells the next morning.

H. H. Hyde considered this time as being entirely too long, as the bees have almost lost their desire for constructing cells by that time. He gives his cell-cups within two or three hours, and in 30 minutes finds them to contain royal jelly. He uses the Doolittle method with some changes of his own. He described the methods he used the present season. He used drone-cells that are neither too old nor too new. In the case of very old drone-comb, he found that the cells were too tough and hard; and, on the other hand, new drone-comb would be gnawed down by the bees. Drone-comb about two years old is about right. The cells are shaved down to about half their original depth, after which a lead-pencil is twirled in each cell to give it the form of the queen-cell. These are then given to the queenless colony for a few minutes, when they will be gone over by the bees and nicely polished. They are then removed and "grafted," i. e., the young larvæ transferred into them. When placed in the queenless colony they are readily accepted.

For this cell-building Mr. Hyde selects a strong, rousing

colony, preferably hybrids, as they are found to be the best cell-builders. This colony is made queenless and broodless, the queen being removed and used somewhere else, or placed in a nucleus until wanted. The brood is distributed among other colonies in the apiary, or wherever it may be needed. In two or three hours after this the queen-rearing colony is ready for the grafted cells. To wait until the next morning would be waiting too long a time, in Mr. Hyde's opinion.

Mr. Victor's method differs from both that of Mr. Hyde and Mr. Aten. He considers that leaving the colony over night both queenless and broodless is too long a time. On the other hand, he thinks that three or four hours is entirely too short a time, as this period is only about sufficient for the bees to find out that they are queenless. At this time they are too much excited and confused to attend properly to the grafted cells. He makes instead the colony queenless one day, and about four o'clock the next afternoon removes all brood. Late the same evening he gives the cells, prepared much the same as by Mr. Hyde's method, and the bees are kept closely concentrated for the entire night, giving their attention to these cells. Out of 138 cells by this method he had 135 accepted, distributing them among different cell building colonies at the rate of about 38 cells to each one. For making cell-cups and grafting, he uses the Doolittle plan, together with some features of the Alley plan and some of his own. He has his own methods of manipulation, by which he is enabled to gain one day's time over the Alley plan.

"Is the use of the queen-excluder an advantage, or to the contrary, in honey-production?"

"No, not advantageous."

"Does it pay to keep a colony on scales?"

"No, not from a financial standpoint."

Under the head of General Business, at the close of the meeting, Mr. H. H. Hyde addressed the Association on the question of

STANDARD PACKAGES FOR HONEY.

He stated that heretofore no standard size had been adopted by the bee-keepers, which had led to much confusion and misunderstanding, especially between the producer and the dealer. Mr. Hyde advocated the adoption of standard-sized packages, so as to avoid this confusion in the future.

Heretofore, for extracted honey, cans with small screw tops have been used, having respective capacities of 6, 12, and 60 pounds. Under this arrangement they were crated so as to make either 60-lb. or 120-lb. cases or crates. The cans for comb honey have been made with 4-inch screw-tops for the 6 and 12-pound sizes, with 8-inch screw-tops for the larger sizes.

Of late a new-style package, known as "the friction-top can," has come into quite extensive use. This is better and cheaper than the old style so long used. But there are objections to it in its varying weights and capacities, and also the way in which it is cased.

It is made in sizes—2, 3, 5, 10, and 60 pounds—and put up in cases or crates of different weights, the larger size cases weighing but 80 pounds. This means mistakes in ordering, and general misunderstanding and confusion.

On motion, the Association adopted as standard size packages, the following: Cans of 3, 6, 12, and 60 pounds capacity, each and all to be crated in cases either of 60 or 120 pounds; the 3 and 6 pound cans to be crated in double tiers, each case containing 60 pounds, while the 12 and 60 pound cans are always to be crated in cases containing 120 pounds each. This secures a uniform sized package, and a simple method of putting honey on the market.

Pres. Toepperwein was instructed to meet with a certain can company and co-operate with them in the manufacture and supply of this new standard package. Southwest Texas alone will use, during the coming season, not less than 20 carloads of these cans, which will be filled with honey for strictly family use.

The bee-keepers' exhibit this year was not as large and complete as the previous year, but a grander exhibit than ever before is being planned for readiness at the next meeting.

Mr. H. A. Mitchell had on exhibition the finest sections of basswood honey that was ever exhibited at the Association meetings, and his exhibit carried off the medal.

A collection of honey-plants was shown by Louis H. Scholl, and was found to be very instructive. A similar collection of honey-plants of Central Texas was also shown by the Department of Entomology, of the College.

LOUIS H. SCHOLL, *Sec.*

(The End.)

Contributed Articles.

Old Bees Not the Best for Queen-Rearing.

BY G. M. DOOLITTLE.

A bee-keeper in an adjoining State and myself have been having a little correspondence regarding the giving of a colony, which has been queenless six or seven weeks, brood from which to rear a queen, I telling him that a first-class queen can not be reared that way, even where only eggs are given, as he seems to think that better queens can be reared from "*the egg*" than in any other way. One of the claims I made was that field-bees could not, from necessity, make good nurse-bees. In his reply to my last letter, he comes at me in this way:

"If field-bees make poor nurses, how about a colony that comes out of their winter quarters in the spring both queenless and broodless, as is quite often the case? If given choice brood, will they be prepared to care for it to the best advantage and rear a queen that is satisfactory? If so, why will not queenless bees do the same when of the same age? I have often seen it stated that we should give brood to such colonies as are queenless when put out from winter quarters. Or do you regard this, as you do the other, as a makeshift, when nothing else can be done? I should like to have your opinion in these matters given through the American Bee Journal, as others are interested."

In reply, I would say that there is quite a difference between old field-bees and the bees which come out of winter quarters as regards their making good nurse-bees. The vitality, or the different parts of the anatomy of the bee which perform different offices, become exhausted or changed in accord with the amount of labor performed, not in accord with the number of days which go by; hence, a bee which has seen five months of winter, where a colony has wintered to the best advantage, may be no older in reality than the same bee would be at from 10 to 20 days old, were the date of the season June or July.

It is a fact with which many are acquainted, that bees which have been wintered over become good nurse-bees, while many are as fully cognizant that a bee which has been in the field as a field-worker for two weeks is almost wholly incapacitated for such work: and if forced to nurse the larvæ, does it as a "makeshift," as our correspondent puts it.

I have found that a colony losing its queen soon after coming through the winter, will rear a very fair queen, though I have never found them to be among the best; but in order to rear such a fair queen it seems necessary that the nurse-bees should be feeding some larval bees before they set about rearing a queen. I have often taken a colony of queenless and broodless bees in the spring and built them up in this way:

As soon as possible after spring opens give them a frame of eggs and larvæ, and in eight or ten days open the hive and break out or cut off all the queen-cells they may have started, giving brood to them once a week if possible, until plenty of young bees emerge from the first brood given, when I give a frame of brood from my choicest colony, and allow them to rear a queen from the same. In this way I have succeeded in securing queens that would prove of value, and saved a colony which otherwise would have been lost. Had I allowed them to perfect a queen from the brood first given, she would have been a makeshift queen, and, in all probability, a drone-layer, as she would have been perfected quite a little before there would have been drones flying for her fecundation. I firmly hold to this belief, the same coming from long experience and deep study along the queen-rearing line, that good queens can not be reared except where there are nurse-bees in the hive, feeding larvæ at the time they are required to rear queens.

To force any bee, which is not in the habit of preparing chyle, to prepare immediately the same for a larva intended for a queen is out of the ordinary course of Nature, and the result can be only an apology for the better article, or a "makeshift," as our questioner puts it. And such colonies as have been queenless six or seven weeks in midsummer can have no chyle prepared, for it would be at least 30 to 33 days since the last larva in that hive had been sealed over.

and all of the bees would have to be field-workers for from four to seven days, consequently nothing but the very poorest kind of a queen could be reared by such bees.

But here is a point which I do not remember ever having heard any one speak about, namely, that so far as my experience goes the bees, when in the proper shape as to nurse-bees, can rear a really good queen from one of these very poor ones which only came about as a makeshift, so that any colony so rearing a queen from a poor one can become a thriving colony again, with a queen reared by supersedure from the brood of the very poor one. In fact, I have often found such queens to equal those reared from the very best of mothers, although I am far from advising using such queens as mothers for queen-rearing. In this we see how Nature has provided for the bees, so that there may be a perpetuation of the race, even under the most adverse circumstances.

I am frequently written to that queens gotten from certain queen-breeders prove poor layers, thinking, evidently, that I will condemn those sending them queens; but, instead, I always advise the rearing of queens from these poor layers, if gotten from any responsible queen-breeder, for it often happens that the very best of queens will not do as well after shipped away as she did when in her original hive; but if the stock is good, queens reared from her will prove equally good with those which were reared from her when she was in her first owner's hands. At least this has proven so in any and every case that has come under my notice.

Onondaga Co., N. Y.

No. 9.—Bee-Keeping for Women.

The Bee-Smoker—One of the Indispensables.

BY EMMA M. WILSON.

One of the indispensable things in the apiary is the smoker. Perhaps those of us who never knew what it meant to get along without a smoker hardly realize just how much of a comfort it is. Still, there are times when a smoker can be the cause of much discomfort.

You have a big day's work to do, and feel that you have not a minute to spare, and yet you are obliged to waste many precious minutes because the fire in your smoker will persist in going out.

You blow and blow for some time, in hopes of resuscitating it, but finally become disgusted and empty the whole thing out, and begin all over again, and it may be with the same result.

The very fact that you are in a hurry does not help the matter any, as you are very apt to fill your smoker too full and cram it down too tight, which proves disastrous, and out it goes.

Alas for your temper. By this time you are decidedly cross, and no doubt the bees, too, as you have been trying to work without a good smoke.

Well, what shall you do about it? Suppose we go back to the beginning and start right. If there is a fire in the kitchen stove, and you can get some nice, bright coals, that will be fine. Put enough in the bottom of the smoker to insure its starting promptly, and fill it up with fuel, and blow it up good. If your fuel is dry there ought to be no trouble in having a good fire. But you can not always get coals from the kitchen fire, so you must be ready in advance to light your smoker in a hurry.

To do this, put in a stone jar saltpeter and water in the proportion of an ounce of saltpeter to a pint of water. After the saltpeter is dissolved, throw in any pieces of old cotton-cloth that you may have handy. After they have thoroughly soaked, take them out and wring lightly, and spread out to dry. When dry they are ready for use.

Next time you want to light your smoker, have ready some nice, dry fuel. First light a good piece of your saltpeter cloth, and drop it in the bottom of your smoker; then quickly fill up the smoker with fuel, and blow "like sixty" until the fuel is well lighted. You may go right on with your work and feel sure that your smoker is not going to bother in the least, even if you did fill it up full and cram it down tight. If it burns too fiercely lay it on its side, but be careful that you do not put it out by leaving it that way too long.

It does not pay to be too economical with saltpeter cloth. Always have a good supply on hand, and use it liberally, and always have some in the apiary with you ready for use. It pays to give your smoker a good cleaning out occasionally. If there is a valve, see that it is thoroughly cleaned, and it may be well to oil it a little.

Now, as to fuel: Fine, dry chips from the chip-pile are excellent. I don't know of anything better, as they burn well, make a fine smoke, and last well. Keep a box or hive full in the apiary so they will be handy. Keep it well covered, so that they will be perfectly dry. If at some special time you want a very dense smoke, you can add some wood that is a little damp, if you have a good fire in your smoker to begin with, or even some green wood at this time, will give you a dense smoke, and will be a help. If you are driving bees, or doing any work in which the smoker is kept constantly blowing, you will be helped, I am sure, by using green wood.

At such times I have had my smoker get so hot I could scarcely hold it without burning my fingers. Adding a little green wood was a great help, as I had a better smoke, and the heat was not nearly so great. When your smoker gets so hot, it is a good thing to empty it and start the fire over again, using only enough coals to start with. You will have a better smoke, and less heat.

Dry apple-wood is well worth saving for smoker-fuel. Almost any good, hard wood, if dry, will make a good fuel; the main points are to have it dry, and plenty of it.

McHenry Co., Ill.

Methods of Rearing the Best Queen-Bees.

BY W. H. LAWS.

The articles of Dr. Gallup, Henry Alley, and others, move me to write. Dr. Gallup has said many good things, and I doubt not that the venerable Mr. Alley, with his more than 30 years' experience in rearing queens, has learned many good tricks, the most of which have been generously given to an appreciative public. Mr. Doolittle, for nearly as many years, has devoted his best days in experimenting and rearing fine queens, and he, too, has made public all his best ideas.

But what I object to is mere assertions without proof. In recommending his own methods and queens, let Mr. Alley not condemn all others, and state as he does, on page 519, that, "I do believe fully 90 percent of all the queens reared are as worthless as so many house-flies." Pray, and how does he get his information? Can it be possible that with thousands upon thousands of queen-bees reared and sold by the leading queen-breeders of this country, Mr. Alley has had a report from even 1 percent of that number? And if his statement be true, then let the bee-keeping world know it, and we queen-breeders must either improve in our ways, or let the public buy all their queens from Mr. Alley.

Personally, as a queen-breeder, I have followed the advice of each of these pioneer queen-breeders and teachers, and verified their teachings as perfect by turning out thousands of first-class prolific queens, reared by either, or both, of their methods.

But permit me to say that as great a percent of large, fully-developed queens were obtained by the Doolittle method as by any method ever used. I dare say, that a majority of the queen-breeders will subscribe to this statement as their experience also. I am not writing this wholly in vindication of Mr. Doolittle's method, but to show that Mr. Alley's method is not the only one to give good queens, for poor queens can be reared by any and all methods.

For several years I have used a modification, or rather a combination, of the above plans, with the best results, and if it is the wish of the Editor I shall be happy to explain this in some future issue. Yes, let us rear our queens by Nature's method as far as possible, for Nature, when properly applied to the rearing of queens, cannot be beat, and is perfect, whether under the swarming impulse or the supersedure of old queens. The sudden realization of queenlessness, however, is not natural, but brings about conditions that are forced, and leads me to say that very few colonies are naturally fitted for the production of good queens. So many conditions must exist before good cells can be obtained, therefore the art of obtaining all good queens is the work of a professional rather than of an amateur.

The time is now ripe for an output of good queens, and the breeder who carelessly puts poor queens on the market will sooner or later pay the penalty, by finding his reputation and business gone.

Bee Co., Texas, Aug. 18.

The Bee in Law—Statutory Enactments.

BY E. D. FISHER.

1. Preface.
2. Offense against Private Property; Unlawful Enticement of Bees.
3. Bees, Property in.
4. Bees, with Hives and Honey, Exempt from Attachment and Execution.
5. Poison—Exposing with Intent to Destroy Bees—Penalties.
6. Bees, Entering Premises to Disturb or Carry away—Penalty.
7. Prevention of Foul Brood among Bees—Michigan.
8. Same, Nebraska.
9. Same, Colorado.
10. Same, California.
11. Same, Utah.
12. Same, Wisconsin.

1. PREFACE.

It is the purpose of this article to supply in convenient form a digest of the whole body of statutory law concerning bees and bee-keepers. The code of laws for each State is supplied only by large libraries, and the wealth of material on most subjects is somewhat confusing. It has been said, "The difficulty is not so much to know the law as to know where to find it."

Our investigations during the preparation of previous chapters of this series of articles have led to the belief that it will be practicable to make a useful and satisfactory digest of the law providing for the propagation, preservation, and protection of bees and bee-keepers.

The concluding chapter is divided into such titles as seem capable of separate treatment. In so far as our investigations could discover, none of the statutory law referred to herein has been repealed

A feature of the concluding chapter which seems worthy of particular mention is the collection of statutes providing for inspection of apiaries, and penalties. However, in this and other respects the work must speak for itself.

2. OFFENSE AGAINST PRIVATE PROPERTY; UNLAWFUL ENTICEMENT OF BEES—PENALTIES.

Laws of Connecticut, 1882, Chap. 77. Central Stat. 1888, Sec. 1466, provide that every person who shall place upon the premises of another any tub, box or other contrivance for the purpose of enticing swarms of bees from the premises of their lawful owner shall be fined not more than seven dollars or imprisoned not mote than thirty days.

3. BEES, PROPERTY IN; DEPOSITS ON LAND.

Laws of Georgia, 1883, Chap. 2, Sec. 3074, Stat. 1895, provide that any deposit made by wild animals on realty belongs to the owner; thus honey deposited by bees in a tree belongs to the owner of the tree, though the bees may be hived by another; so the eggs and young of birds, or the increase of animals (bees), so long as they remain unable to leave the land, they belong to the owner.

4. BEES, WITH HIVES AND HONEY, EXEMPT FROM EXECUTION.

Statute of Vermont, 1894, Sec. 1805, provides that, among the goods or chattels of a debtor which are exempt from attachment and execution to satisfy a judgment debt, are three swarms of bees and their hives, with their produce in honey, provided the suit brought is not to recover payment for the purchase price thereof, or for material or labor expended on the same.

5. POISON, EXPOSING WITH INTENT TO DESTROY BEES—PENALTIES.

Section 1247, Rev. Stat. Kentucky (Carroll), provides that if any person on land or premises not in his possession or under his control shall lay or expose any poisonous substance with intent to destroy honey-bees he shall be fined not less than five nor more than fifty dollars.

Same, Code and Stat. Washington Sec. 7161 (Laws '97, p. 11), provides that it shall be unlawful for any person within the State of Washington willfully or maliciously to kill or poison any honey-bees. It shall further be unlawful for any person within said State willfully and maliciously to place any poisonous or sweetened substance for the purpose of injuring honey-bees in any place where such poisoned or sweetened substance is accessible to honey-bees within this State. Any person or persons violating said law shall, upon conviction thereof, be punished by fine of not less than ten dollars nor more than one hundred dollars.

6. BEES, ENTERING PREMISES TO DISTURB, STEAL, OR CARRY AWAY—PENALTY.

Laws of Ohio (Rev. Stat. 1890 (S. & B.), Sec. 6840) provide that whoever unlawfully enters the premises of another for the purpose of disturbing or carrying away any box, gum, or vessel containing bees or honey, or injuring or carrying away any such property, shall be fined not more than five hundred dollars or imprisoned not more than sixty days or both (60 A. 5, Sec. 1, S. & S. 279).

Same, Laws of Nebraska, 1879, Sec. 81, provide that, if any person shall steal any hive, box, bee-palace, or other contrivance containing honey or honey-bees, the property of another, of less value than thirty-five dollars; or if any person shall steal honey from any such receptacle or other contrivance, or shall willfully and maliciously disturb, injure, or destroy any of the aforesaid receptacles or other contrivances containing honey or honey-bees, or if any person shall steal, or by art, device, or contrivance, or in any manner whatever, decoy from any such hive, box, bee-palace, or contrivance any such honey-bees, with intent to convert the same to his own use, or with intent to damage or defraud the owner thereof, or by any art or device injure, damage, or destroy any such honey-bees by means of poison and otherwise, such offender shall be fined not exceeding one hundred dollars, and confined in the county jail not less than ten nor more than thirty days, and shall be liable to the party injured in double the value of the property stolen, injured, or destroyed.

7. PREVENTION OF FOUL BROOD AMONG BEES.

(*a*) Laws of Michigan (Howell's Ann'd Stat., 1882, Chap. 62), 1881, p. 125, makes it unlawful for any person to keep in his apiary any colony of bees affected with contagious malady known as foul brood, and makes it the duty of every bee-keeper, as soon as he becomes aware of the existence of said disease among his bees, forthwith to destroy or cause to be destroyed by burning or interment all colonies thus affected.

(*b*) Wherever foul brood exists, or where there are good reasons to believe it exists, it shall be lawful for any five or more actual bee-keepers of any county of the State, to set forth such facts, belief, or apprehension in a petition addressed to the judge of probate, whose duty it is to appoint a competent bee-keeper of said county, as a commissioner, to prevent the spread of said disease and to eradicate the same; said commissioner to hold his office during the pleasure of the court; records of appointment and revocation shall be filed with the petition as a part of the records of the court.

(*c*) Upon complaint of any three bee-keepers in writing and on oath, to said commissioner, setting forth that said disease exists, or that they have good reason to believe it exists within said county, designating the apiary or apiaries, it is the duty of the commissioner to proceed at once to examine the bees so designated; and when satisfied that any colony or colonies of said bees are diseased with foul brood, he shall place a distinguishing mark upon each hive wherein exists said foul brood, and immediately notify the person to whom said bees belong, personally or by written notice, to remove or destroy said hives, together with their entire contents, by burying them or by fire within five days. In case no foul brood is found to exist in said apiary, the persons so petitioning, or either of them, becomes liable to said commissioner for the amount of his fees for such services.

(*d*) Any person neglecting to destroy or cause to be destroyed said hives and contents, after notice and time limited, shall be fined not more than twenty-five dollars or by imprisonment not more than fifteen days or both. For the second offense the fine may not exceed one hundred dollars or imprisonment more than 60 days or both.

(*e*) The commissioner is allowed two dollars per day for his services, and is paid by the county. But no fees are allowed unless foul brood is found.

(*f*) In all suits and prosecutions under this law, it is necessary to prove that said bees were actually diseased, or infected with foul brood.

8. SAME, FOUL BROOD, DISEASED BEES.

(*a*) Laws of Nebraska (Chap. 3, Act 1885, Chap. 8*a*, Ann'd Stat. Neb., 1901); makes it unlawful for any one to keep or have in possession in this State, any honey-bees, brood-comb, or honey known to possess or to be infected with the disease known as "foul brood," or any other infec-

tious or contagious disease peculiar to bees or honey, or to keep or have in possession any bee-hive or other receptacle in which any foul brood, diseased bees, or infected honey is known to have been kept.

(*b*) *Destruction, Penalty.*—Any honey-bees, brood comb, or honey owned or kept or found in this State, known to be affected or infected; and any bee-hive or other receptacle in which any bees, brood-comb, or honey shall have been kept, known to be, or have been infected as set out in section (*a*), shall be destroyed immediately and completely by burning. Any person who shall be the owner, possessor, or care-taker thereof, who refuses or neglects immediately to cause the same to be destroyed, as provided herein, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall pay a fine of not less than ten nor more than one hundred dollars, or be imprisoned in jail not more than 30 days for each offense.

(*c*) *Inspection.*—Every person owning or keeping honey-bees in this State shall cause the same to be inspected at his own expense, at least once a year in infected districts. This includes each and every brood or colony of bees, brood-comb, and honey in his possession or under his control, and the procuring of a certificate of such inspection showing the true condition of each and every one of the above-named articles in his possession as to the existence of foul brood or other infectious or contagious disease, in duplicate, one of which duplicates shall be left with such person, and the other filed in the county clerk's office, where such bees or honey or brood-comb is kept.

(*d*) *Treatment.*—If, upon inspection, the disease of foul brood or other infection or contagion shall be found to exist, and the inspector shall be of the opinion that, by proper treatment, such diseases, contagion, or infection may be removed, he shall so certify officially in his certificate of inspection, and the owner or keeper of such bees shall be entitled to keep such bees for the period of six months for treatment; and if not eradicated at the expiration of such time, such bees shall be destoyed as hereinbefore described; and any person having in possession any brood-comb, bee-hive, honey, or apparatus used in connection with bee-culture, found in like manner to be infected, such person shall be allowed 30 days in which to disinfect the same; and if said disinfection shall not have been complete at the expiration of 30 days, such brood-comb, bee-hive, honey, or apparatus shall be burned as hereinbefore provided.

(*e*) *Penalty.*—Every person neglecting or refusing to cause all such bees to be duly inspected as provided herein, shall be deemed guilty of a misdemeanor, and shall pay a fine of not less than ten or more the one hundred dollars for each offense upon conviction thereof.

(*f*) *Inspector, Pay.*—Upon the application of the Nebraska Bee-Keepers' Association, or other person or persons interested in bee-culture residing in any county of the State, the Governor may appoint a suitable resident inspector of bees and honey of said county, whose sworn duty it is to inspect all bees, brood-comb, and honey, within said county, when requested, and shall receive two dollars per day for his services, to be paid by the owner, agent or lessee in whose possession such bees, brood-comb, or honey may be when inspected. Such inspector shall make certificates in duplicate as provided in section (*c*).—Gleanings in Bee-Culture.

(Continued next week.)

The Buffalo Convention Report is issued in pamphlet form, size 6x8½ inches, 80 pages and cover. Besides a full report of the proceedings of the 32d convention of the National Bee-Keepers' Association, held in Buffalo, N. Y., Sept. 10, 11 and 12, 1901, it contains fine half-tone portraits of all the officers and directors of the Association; also the Constitution, a list of the membership up to the end of 1901, and the two latest bee-songs—"The Hum of the Bees in the Apple-Tree Bloom" and "Buckwheat Cakes and Honey." We believe it is the finest ever gotten out for the Association. Of course, all members of the Association receive a copy free, but there are thousands of our readers who are not yet members, but who should have this valuable Report. Better send for a copy, if you have not yet received one. Price, postpaid, 25 cents, or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal. Better order soon, before all are gone.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

CHARLES DADANT.

From the title page of No. 30 a grave, wise face looks a good-by to us. Honor, and a place in our memories, to Mr. Charles Dadant. I understand that more people in France than in America realize his weight and worth. This is on account of the extent of his writings in French. Not long since apiculture was called a new craft, and its eminent men were mostly living. How soon it will be that most of those who first dignified apiculture as a vocation, and a semi-science as well as a vocation, will be mostly among the dead?

WHY SO MANY BACHELOR BEE-KEEPERS.

Worry, worry;
Frowns and flurry;

And it's the old bachelors "Iowa" is troubled about when he (or she—horrid thought!) counts the noses of bee-dom! Half mankind get married when good sense would bid them not to. (There, now, let's see you deny that.) And the average sense of mankind is low; and the average sense of bee-keepers is supposed to be quite a bit higher. Or, if you don't like that, say that a man so full of ideas as the bee-man, must needs long for a mate of his own kind (like Adam, when the critters were paraded before him), and lady bee-keepers, both present and potential, are still quite insufficient in number to go round. Page 488.

WHY BEES VISIT PIG-STYS, ETC.

Anent the other "Iowa," page 489, I don't believe that bees go to privies and pig-stys for salt—that is, salt is not the main thing. All higher life on this planet is a life-and-death struggle with microbes. The excreta of all higher animals abound in antiseptics, which the proper internal organs have made and poured out to keep down microbe multiplication within. Much of this anti-microbe matter is not neutralized, and is capable of being used again. Bees seem to think they need all they can secrete and all they can gather, too. Salt is a mild antiseptic, and comes all in the same line; but you may salt never so wisely the water you offer them at the apiary, and they will still prefer their chosen watering-place where cattle stamp around.

MAXIMUM AGE OF QUEENS.

Ever since defending Virgil's seven-year age for bees, I have felt specially interested in the maximum age of queens. On page 494 we find that Edwin Bevins has a queen that has done service four whole years and two fractional years, six in all. If she should commence on next season she would be in a measure a seven-year queen.

GRAVENHORST'S SWARM-PREVENTION.

I think that to be sure of the Gravenhorst method of swarm-prevention you will have to get the bees to rear themselves a young queen *a little before the time of regular swarming*. If you should delay until the midst of the swarming season I should incline to warrant you that the queen that began laying in that hive would be queen No. 2—queen of a depleted colony. Page 499.

QUEENS WITH AFTER SWARMS.

So Doolittle has counted 15 queens with the last after-swarm of a series. Till some one else counts more, let's call that the record. Page 501.

DR. PEIRO AND MULBERRY-TREES.

And so Dr. Peiro, when he gets ready, and feels just like it, is going to make some of us presents of young mulberry trees. I'm going to try to look real pretty. Hope my duties won't require me to give him anything in the nature of a switching until after my tree arrives. Or is this just the rogue's crafty plan to keep his jacket untanned for about five years?

TOOLS FOR HOLDING QUEENS FOR CLIPPING.

The little tool which is shown on page 526, seems to be an excellent invention—that is, so far as can appear with-

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out actual use it does. (Carved section-slip crossed by thread of rubber.) Has also the merit of being very easy to make. As but few bee-folks are clumsy in their mechanical doings, nearly every one can make it, and catch queens with a minimum of danger and nerve-strain.

Twenty-two years ago—the first year I owned the apiary here—I also invented a wonderful queen-catcher. Worked well the few times I used it; and would pick queens up instead of being restricted to holding them down. But as I am an anti-clipper my invention has languished from a total want of use, and I have never brought it forward.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Two Queens in a Hive.

I will give a little of my experience with a colony of bees. They are a cross between Carniolans and golden Italians. The first of May I opened this hive with the intention of dividing the colony, as they were getting very heavy, and in my work I found two queens, so I had one queen for each colony. I left the old one on the old stand, and looked in a week later and they had two more queen-cells, one finished and the other one almost done. July 12 I divided them again and had a nice young queen to go with the increase, but I do not think she was laying at this time, but she has spread herself since. The old queen keeps the hive running over with bees, and there are 7 frames of brood in the hive now, and two queens again. Now this is the third young queen she has reared this season, and I am going to leave it with her and see whether there will be two in the spring. I clip all my queens, and when I clip this last young one I will do it in such a way that I will know one from the other, and can see which one gets killed, if either. The question is: Why does she insist on having a helper when she is so good herself? ILLINOIS.

ANSWER.—The probability is that in spite of her good work the bees have a presentiment that she is nearing her end, and it is not at all likely that you will find her alive next spring. Still it is possible. The case, however, is unusual, and if peculiarity extends to her offspring you have struck upon a valuable trait.

Can Bees See in the Dark?

I was asked the other day whether bees could see in the dark? I could not answer, and so refer it to you for answer. GEORGIA.

ANSWER.—The word "dark" is a relative term, and does not always mean the same thing. There is probably no such thing as sight in the absolute absence of all light, but it is quite possible that bees can see where it is so dark that human eyes can not see. On the other hand, it is possible that they need more light than we do, and that the work of the hive is carried on mostly by the sense of feeling.

Why Did the Bees Do So?

I have a very strong colony of Italian bees with a super for extracted honey on the top of the brood-chamber, in which super they had commenced to store honey. By opening this super one day in order to find out how much surplus honey they had stored, I pulled out the center comb and found eggs and larvæ three or four days old with which said comb was pretty well filled on both sides.

I found that there was a little space left between the zinc queen-excluder through which the queen went up to the super.

I could not find the queen in the super, but I thought by using a little smoke from the top she went down into the brood-chamber. However, I put the zinc in proper place and closed the hive.

The fourth day after this, I went to the same hive and looked through the super to see if I could find the queen there laying eggs, and found that she was not there; and upon reaching the comb which contained the eggs and the brood, I found it empty of eggs, and the larvæ partly gone, and some left starved without any food at the bottom of the cell.

Why did the bees leave this larvæ to starve, and dispose of the eggs? NEBRASKA.

ANSWER.—I don't know. When honey is being gathered very rapidly there is a tendency to crowd out the queen. Put an empty comb in the center of the brood-nest. If honey is coming in slowly the empty comb will be filled with brood. If honey is coming in very rapidly the comb will be filled with honey. The same passion for honey might be carried still further, making the bees empty out cells already occupied by brood. But I don't know anything about it for certain.

White-Eyed Drones.

I had one colony out of 190 that had a few of those white-eyed drones that "Kansas" was inquiring about on page 489, but I have nothing particular to say about them excepting that it seemed like a white enamel scale which could be removed, as I practiced on one. I never saw one around the entrance (only inside the hive). I believe they cannot see until those scales get rubbed off. I think there were some with the same kind of shield on the back of the head, and I believe they were not long hatched. MICHIGAN.

ANSWER.—I think the case you mention was exceptional, the common thing being a mere change in the color of the head, or the eyes, without any scale or other imperfection.

The Loose-Tin T Super and Propolis.

You tell us (on page 521) that you use T supers for comb honey, and I have understood from other writings of yours that you use the tins *loose*. Will you kindly explain how the loose tins may be an advantage to you over stationary tins in manipulating the supers? Also, do you find the T super any improvement over the P super with plain section-holders, especially in regard to the feature of propolis?

The amount of propolis which I find in the hives this season is enormous, and we all know your acquaintance with this article is "exceedingly intimate." Has the T super with loose tins given you any relief? ILLINOIS.

ANSWER.—With T tins loose, the entire contents of the super are pushed out in one mass, the loose tins are picked off, and then the sections can be easily split apart. Possibly no arrangement will prevent the deposit of propolis. In the T super, however, there is less trouble than with some others, for the tops and bottoms of the sections are entirely free, so that the bees have no excuse for plugging glue into the cracks formed by having something touch either the top or bottom of the section. It is possible that a change of bees might help you, for there is a great difference in that respect as to the amount of propolis. The worst gluers I ever had were the Tunisians or Punics, from northern Africa. They were fine gatherers, but their liking for propolis and for cramming the cells so full that there was no air-space between the honey and capping made them utterly unfit for producing comb honey.

Confining Queens Below Excluders.

I notice, on page 475, and also in a previous number, that you are slightly off in your understanding in regard to what I said about confining the queens below with the excluder, while the brood was placed above. In both of my letters I stated that I was not using foundation this year—I used empty frames. In previous years I used foundation, but the bees failed to use it.

On page 474, I stated that "I think if foundation had been used I might have been able to get better results." The heading and also your reply would indicate that it was used in these experiments.

Now, in reply to the inquiries in your answer, I would caution a beginner, that if the nights are cold and the col-

ony not strong it would not be safe to put all the brood from another colony on it, without giving bees also, as the brood might get chilled. But in warm weather, and a strong colony, the more brood given the better. I could not say that the colony with its double load of brood *would not swarm*, but if the queen has room to lay below, and the bees room above to store, they will not be likely to swarm, or at least no more likely to than any other strong colony.

In regard to the colony swarming out when all the brood is taken away, I suppose you fear that under such circumstances they might be discouraged, and desert the hive. They might do so, but in my experience they never do. But if they would in your locality, leave one comb with a small patch of unsealed larvæ, and you will not be likely to lose any bees. In hiving natural swarms, I find they will sometimes leave a hive when given eggs and sealed brood, but have never had one leave unsealed brood.

CALIFORNIA.

ANSWER.—It's a pretty clear case that we will never be able to learn all about bees, for when we think we are settled upon some one thing, our bees or the bees of some one else, apparently with no other object but to get the laugh on us, topple over settled notions by doing just the reverse of what they have done before. I felt safe in saying that if there was foundation in the lower story the queen would use it, and you thought better work would be done with foundation than without it. Well, since the former words were written, I have had a case in which foundation was given and left untouched, and at the same time another colony had empty frames given below, not even starters, and the queen commenced laying with more promptness than any case I had with foundation! There are some things I know all about, but not about bees.

The practice of giving a frame of brood to the bees to prevent discouragement, is, I think, the practice of Mr. L. Stachelhausen. If the bees will not desert, it is no doubt better to omit the brood, for Mr. Stachelhausen, if I remember rightly, takes it away in a day or two, because the bees are likely to start queen-cells on it.

Storing a Black Liquid.

My bees for about one week after August 1 stored some black, or nearly black, liquid in part of the brood-combs. What is it? May it be from huckleberry or blueberry juices? MASSACHUSETTS.

ANSWER.—Your guess is perhaps as good as can be made, providing such berries were ripe and within reach.

Drone-Eggs in the Super—Pollen in the Sections—Swarming, Etc.

1. Lately a question was asked, "What makes the queen lay drone-eggs in the supers?" To this you answer, "Want of drone-comb?" Now if this is the only cause in your location, and with your bees, I live in a much different locality, or else have a much different strain of bees, for those critters of mine will breed just as fast in the supers as they will in the brood-chamber, if the conditions are right, and not drones, either. For I have taken off the finest sections of worker-brood any bee-keeper ever saw—not a single cell missed, combs attached to three sides, not a drop of honey in them, but filled from top to bottom with worker-brood. Those sections not having brood in them had more or less pollen, which makes them unsalable.

2. How can bees be prevented from carrying pollen into the sections? The queen-excluding zinc does not prevent the bees from working in the sections, nor do I think it hampers them at all, for I have tried it on hundreds of colonies, side by side. But the zinc does not prevent the pollen from going into the sections, if the bees are determined to put it in there.

3. I had a singular occurrence recently, something I never saw before. Four supers of unfinished sections were placed on a hive, to be finished with extracted honey, over a queen-excluding zinc. On taking off those 4 supers, when finished, a few days ago, 4 of the sections had been emptied by the bees, the combs reduced to brood-comb depth, some pollen in them, and on the bottom of one of them a queen-cell ready to be sealed; and on another one a queen-cell cup with an egg in it, standing on its end as if deposited by a queen, but not another egg could be found in any other cell, and the queen was down in the brood-chamber, and is a very good one. She was reared in 1899, and is so large that she never could go through the zinc. Could she have gone through, she would surely have laid more eggs in the sections than only 2. The difference in the age of the 2 eggs was about 8 days. I have seen it stated that bees would carry eggs to different parts of the hive, but I never believed it. But this experience put me at sea, and makes me almost believe they do.

4. Out of 75 queens reared in June about 50 swarmed in August, and the others would have done so, too, if it had not turned to the freezing-point at night.

WISCONSIN.

ANSWERS.—1. I wish you had given the page to which you refer, so that we could know just what was under discussion. For you are now talking about queens laying *worker-eggs* in sections, whereas you quote a question about drone-eggs. I suspect the answer was all right, for when there is no chance for drone-brood in the brood-chamber the bees will be likely to prepare drone-comb in the super if there is a chance for it, and the queen is likely to lay there if she can get there. There are, however, cases in which she will do as you say—enter the super and fill not only one, but many sections, full of worker-brood. Just why those exceptions occur where separators are used and sections filled with foundation, I do not know.

2. You are probably right, that perforated zinc has little or no effect in preventing pollen from being carried into the sections, and I am not sure I know what will prevent it, although it is very rare to find such a thing in my own experience. It is possible you can prevent it by use of a deeper brood-chamber, for I think the more shallow the brood-combs the more likely will the bees be to carry pollen into the sections.

3. Some one has suggested that when an egg is found in a story over an excluder, a laying queen being below, that an enterprising laying worker has been in the upper story. I don't know.

4. If those 50 queens were reared in the same colonies that swarmed with them, it is something different from anything on record. If they were reared elsewhere and introduced into the colonies with which they afterward swarmed, there is nothing so unusual about it.

The Apiary of Wm. Housel is shown on the first page. When sending the picture he wrote as follows:

I send a photograph of my bee-yard, or part of it, which contains 100 colonies; not all is shown, as the camera would not take all of them in.

I have been in the bee-business since 1888, and have had a few failures as well as success.

I have taken the American Bee Journal since 1889 or 1890, and have been well paid for the money invested.

At one time my bees were all Italians, but now they are hybrids and Germans. It has taken me just 12 years to find out that the Italian is no good for me for comb honey. I would not give my blacks for all the Italians in the land. I will give the Italian bees credit for one thing; that is, they are great swarmers. I find all alike as to swarming, as I have had bees from different breeders. I spent $20 for Italian queens to breed from, and never found one of them equal to the ones I rear. I believe all queens are injured in the mails, or in caging. The blacks always give me the largest yield of comb honey, and not only the largest yield, but the finest honey. The Italians never fill the sections full, and do not cap the honey as white. Hurrah for the little black bee! I give the man praise who speaks up for the black bee, and if you were to change color—put the yellow bands on the blacks and the dark bands on the Italians, and let the temper and honey-gathering qualities be as they are—they would all jump for the blacks. It is the color and gentleness the most people are after, not fine work.

The Italians do no more work on red clover than the blacks, and not so much on buckwheat, and the blacks will hold them a good round on anything that is fit for honey. I often see it asked: "Why do the Italians store better honey than the blacks?" If those people just reverse the question they will come nearer right, according to my experience. I give the bee the credit it deserves, minus color or length of tongue. I do not know how long the tongues of my bees are, but the other end is plenty long enough!

Monmouth Co., N. J. WM. HOUSEL.

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To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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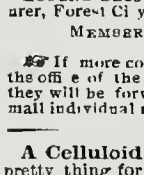

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

GENERAL ITEMS

Rearing Good Queens.

Having a few spare hours I sat down and grasped my old friend (the American Bee Journal) by the—well, leaves, and gave Mr. Alley's contribution my attention; and I wish to say to him that he is tagging pretty hard, when he says on page 519, "I have found by actual experiment that a colony of bees will not rear good queens while there is a fertile queen present;" and then says, "I don't want any one to tell me it can be done, for I assert that it can not be done by any person." Now, Mr. Alley, I have had queens from a dozen different breeders, ranging from Texas to Wisconsin, and I am in position to know what a good queen will do, for I have one reared just the reverse of your experiment—over a laying queen. The bees of this queen have produced, of comb honey, 126 pounds, or filled sections, and helped build up a weak colony. You may say chance or luck—perhaps it is, and if it is so, it is a chance worth while to chance. ROBERT J. CARY.

Fairfield Co., Conn., Aug. 24.

Report for the Season of 1902.

I read with a good deal of interest the articles from many correspondents in regard to their experience and prospects for a honey crop for this season, and as mine is in many respects nearly the same, I will add it to the others.

I have 71 colonies—41 old and 30 new. I wintered a part in the cellar, and (as an experiment) I left 12 on the summer stands. They were about 18 inches apart; I drove stakes 3 feet back of the hives, and these I boarded up 2 feet. I then filled in with clover-hulls between and back of the hives, packing the same until the hives were covered to the depth of one foot.

At the front, and resting on the porch of the hive, I put a board one foot wide, also kept in place by stakes driven in front to prevent the clover from falling off. I then covered with slough-grass, laid to shed water, and then I set a row of corn-stalks in front to protect from snow. The stalks I removed when the weather admitted of the bees taking an outing. The experiment proved a perfect success, the bees coming out in the spring in excellent condition, and also those wintered in the cellar, except 3 colonies which were dead. I took them out April 1, nearly all with a good supply of stores.

From that time until May 20 the weather was "all sorts," with many cold, wet days. About the middle of May I discovered that my bees were nearly destitute of honey, although I had fed perhaps 150 pounds of honey, but as they seemed to be working freely I concluded that they were all right. From that time on until the middle of June every pound of honey went into the brood-chamber, and the same is true of more than half of the colonies up to date. All my supers have glass strips in the sides, so I can easily examine the interior. July 2 there were 35 partially filled, 4 finished, and 10 finished all except a few sections. My supers hold 32 1¾ sections, and usually weigh 26 to 28 pounds net, so I estimated there is about 600 pounds on 70 colonies, about equally divided between old and new, or rather 35 colonies, the others having none.

For the past four weeks there has been little if any surplus honey stored. Buckwheat is just coming in bloom, and the bees have commenced working strong, and may yet store a fair average.

I have never seen such an abundance of "bee-pasturage" as this season. All pastures, roadsides, commons, and vacant places, were covered with white clover and alsike. There is plenty of heartsease, goldenrod, buckwheat, and many other "bee-plants."

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

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This is your last chance for this season to get Queens from Quirin's Famous Red Clover stock, so hurry in your orders. We have files of testimonials like the following:

Mr. J. Roorda, of De Motte, Ind., bought 4 dozen in the spring, and says the workers are hustlers; while E. L. Messenger, of New Haven, Conn., says the queen bought last season produced bees which beat anything in that part of the country.

Price of Queens for balance of season:

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Selected	$ .75	$4.00	$ 7.00
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45—36A3t

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Nothing but the bad weather has prevented an unprecedented honey crop.

I have kept bees for 15 years, and have never seen or heard of foul brood in this vicinity, although there are a great many who keep from a few to 50 colonies. My bees are Italians, some hybrids, some brown, and some small, black bees. I have never been able to determine which are the best all-around bees.

My apiary is necessarily very close to the house, on account of limited space. My garden is full of shrubbery, and at the back a row of wild plum-trees. I do not clip my queens, but allow them to swarm naturally; they invariably cluster either on the shrubbery or on the plum-trees—in either case are easily reached from the ground. At night I remove the old colony and replace it with the new. It is not often that a second swarm issues when the old one has been removed, although I seldom remove the queen-cells, as I find that whenever I have done so there are a great many vicious bees ready for business, anxiously waiting for victims, and the hives being so near the house no one dares come into the yard, so in case a second swarm issues I hive them in a hiving-box, and place a queen-excluder in front of the entrance to the hive from which they came. I empty them in front, and with the smoker drive them in and catch and kill the queen. It is very seldom that I have any further trouble. Of course, I know that I lay myself open to the charge of heresy, but with my environments I find my way the most convenient and satisfactory.

My bees did not commence swarming until June 8, and continued until July 12. I have never had any trouble on account of the queen laying in the super, although I do not use excluders. I put supers on three or four days after hiving. I put supers on old colonies about May 1, which they often fill before they cast the swarm. Whether or not it delays swarming I am not certain, but I do not think it makes any difference. I have had two instances where new colonies have swarmed 11 days after having been hived. I don't understand it. N. B. KNOWLES.

Winona Co., Minn., Aug. 9.

Rearing the Best Queens.

I am glad to see queen-rearing discussed, as discussion is a good way to bring out the best points of apiarian work. I am only a green backwoodsman, but I must take a decided stand against Mr. Alley, on pages 519 and 533. I have tried his forced plan, and my experience is that when a colony becomes queenless all at once, that is, by taking the queen from them, that they build, in a hasty way, a lot of insignificant queen-cells that produce very poor queens. He says they will not rear good queens while there is a fertile queen in the hive. Is there not a fertile queen in the hive when cells are built under the swarming impulse? And that is where the best queens come from, he says.

Queens whose colonies fill 100 one-pound sections can not be called cheap queens. I have very few queens in my yard whose colonies have done that well, even in an ordinary year, and some of them have done much more—and all my queens are reared under the swarming impulse.

He speaks of colonies rearing queens under the swarming impulse, as if they did not care as much about the future welfare of the bees that are to be left in the hive, as they did for their own particular selves. If that is the

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my adv., as by my new system of queen-rearing, I can fill all orders by return mail, and they come in by the hat full, and the little old man here isn't lying about it, either. I can send you the largest and finest Adel-Golden Carniolan Queens you ever saw. Practically a non-swarming race of bees.

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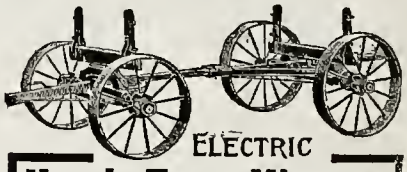

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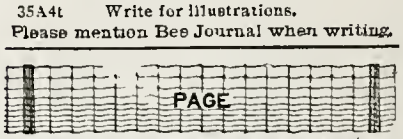

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48—38A3t

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case, why do they build cells at all? The fact of the case, in my mind, is, that the very best queens are reared in a good, strong colony of our best bees under the swarming impulse.

I would like to ask Mr. Alley one question: He says the best queens he ever saw were reared in his small boxes that he speaks of; and that he does not use them for rearing queens, only for fertilizing them. Why doesn't he rear queens in those boxes if that is where the best ones he ever saw were reared? C. H. HARLAN.

Kanabec Co., Minn., Aug. 25.

Introducing Queens with Tobacco-Smoke.

This method gives Editor Hutchinson more satisfaction than any other way. He says:

About two days before sending a queen I send notice to my customer when he may expect the queen, and below the notice are the following instructions:

"As soon as you receive this notice remove the queen from the colony to which you expect to introduce the new queen. When she arrives, put her away in a safe place until after sundown, just at dusk, then light your smoker, and when it is well to going put in a pipeful of smoking-tobacco, put on the cover, puff until you get an odor of tobacco, then puff three or four good puffs into the entrance of the hive. Wait two or three minutes, then send in another good puff or two, remove the cover, drive the bees down with a puff of smoke, open the cage and allow the queen to run down between the combs, following her with a puff or two of smoke, and put on the cover. Half an hour later light up the smoker again, put in the tobacco as before, and blow two or three more good puffs in at the entrance. If no honey is coming in, feed the colony a pint of syrup each night from the inside of the hive, but don't disturb the brood-nest for four or five days."

Brushed Swarms.

We have just had a brief visit from Mr. Danzenbaker, who is on his way to California on special business. In talking over the matter of the brushed-swarm plan, he mentioned the fact that he had practiced for years that method of controlling swarms; and by it he is enabled to get a powerful colony in one of his shallow brood-nests for comb honey—and if there is any honey at all to be had, he is going to get it, and that with a small probability of swarming.

I have been looking up this matter of brushed or "shook" swarms; and in the face of the favorable testimony concerning it I am surprised that bee-keepers have not made more of it. Why, just think of it! *if* swarms can be controlled in *small* brood-nests when running for comb honey, it will be one of the greatest boons that ever struck modern apiculture. If any one else has had experience with brushed swarms I wish he would tell us about it.—Editorial in Gleanings in Bee-Culture.

Shaken Swarms as Good as Natural Ones.

M. A. Gill, in the Bee-Keepers' Review, says he examines his colonies each week, and "all colonies that are going to swarm will be shaken into new hives with starters, setting the new hive on the old stand and carrying the brood, with just enough bees to protect it till the brood hatches, to the new stand. This usually 'fixes' swarming as far as such colonies are concerned.

"I must confess that the longer I practice the shaking-off plan, when colonies are going to swarm *anyway*, the better I like it. Much has been said about a colony being a unit, and that we can not sort them with proper regard to age, but I find that is more in theory than in practice. I find little if any difference between natural or shaken swarms that are now two weeks old, and it's certainly a great advantage in out-apiaries."

A Dog that Watches for Swarms.

This is reported in Gleanings in Bee-Culture. Its owner, H. S. Ferry, says:

This dog is half Newfoundland and half St. Bernard, both thoroughbred. The kennel has a four-light window, where he can see the apiary; and if there is anything unusual going on in the apiary he is sure to notify us. If there should be a swarm, or an extra buzzing in the apiary, he is sure to call some of us before they alight or leave the yard. I never have had a swarm of bees leave the yard as long as this dog has been in charge. He weighs 150 pounds, has a good disposition, and understands the nature of the bees as well as any dumb creature can, and much better than some human beings. He will go among the bees. They do not seem to meddle with him. He is not afraid of them, and is kind to his owners and those who take care of him, but is proof against intruders. So far as value is concerned, he is beyond price. Money would not buy him.

Comb and Extracted in the Same Apiary.

This has been advocated by Mrs. A. J. Barber heretofore, but the experience of this year makes her more in favor of it than ever. She says in the Rocky Mountain Bee Journal:

All colonies that have been run exclusively for comb honey are full of honey in the brood-chamber, so full that in many cases there is not even a cell of brood or an egg. At first we thought there must have been a wholesale murder of queens, as there was no brood, but upon close examination queens are found

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
144 & 146 Erie Street. CHICAGO, ILL.

$5 TO START YOU IN BUSINESS
We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.
DRAPER PUBLISHING CO., Chicago, Ills.
Please mention Bee Journal when writing.

One Fare for Round Trip
or $8.50 to Cleveland, Ohio, and return via Nickel Plate Road, Sept. 26th and 27th, with extended return limit of Oct. 28th by depositing tickets in Cleveland. First-class equipment and service. Three daily trains. Chicago Passenger Station, Harrison St. and 5th Ave. Write John Y. Calahan, General Agent, 113 Adams St., Chicago, for particulars.
46—36A3t

1902—Bee-Keepers' Supplies!
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich
Please mention Bee Journal when writing.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.25 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

It Means Something
to the world that there is one old family remedy that is believed in by endless thousands of humanity after 40 years' trial.
WATKINS' Vegetable Anodyne LINIMENT
J. R. Watkins
It means that here is a remedy that makes you feel certain of the lives of your dear ones in cases of accident or sudden sickness. It means many dollars saved to you that would otherwise go to the doctor or veterinary. In all cases of cholera morbus, diarrhoea, flux, rheumatism, cuts, cramps, strains, burns, mumps, sore throat, diphtheria, etc., it is a God-send.
Worth Its Weight in Gold.
Red Lake, Minn., June 5, 1901.
One time last summer I got very sick with cholera and thought sure we would have to send for the doctor, but after taking 3 doses of Watkins' Vegetable Anodyne Liniment I felt as well as ever. Since then I use it every day and and find it the best family medicine in the market to-day; it is worth its weight in gold. JOSEPH DUCHARME.
Thousands of good people have written in the same vein.
FOR ANIMALS it cures colic, diarrhoea, sprains, cuts, scratches, bruises, sweeney, etc.
Don't wait until you are down sick, or injured by some bad accident, but be sure to get a bottle from our agent when he calls. If no agent in your county, write us at once and we will see that you are supplied. Price $1.
FREE! FREE! FREE!
We send our instructive 100-page finely illustrated Home Doctor and Cook Book to every inquirer free. It is a very valuable and interesting work for farm and home, containing weather forecasts, fine cooking recipes, etc. We send it free whether you are ready to buy now or not.
THE J. R. WATKINS MEDICAL CO.,
10 Liberty St., Winona, Minn.

Please Mention the Bee Journal when writing Advertisers *****

One Fare for the Round Trip

to Boston and return, via Nickel Plate Road, Oct. 7th to 11th, account meeting of Brotherhood of St. Andrews. By depositing tickets at Boston and paying fee of 50 cents, extended return limit of Nov. 12th may be obtained. Through vestibuled sleeping-cars and first-class service in every respect. Cheap rates to all New England points. Write John Y. Calahan, 113 Adams St., Chicago, for particulars. 49—38A3t

Bee-Keepers—Attention!

Do not put your money into **New Fangled Bee-Hives,** but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

Thousands of Hives, Millions of Sections, ready for **Prompt Shipment.**

G. B. LEWIS CO., Watertown, Wis.

"SEASONABLE OFFERINGS."

MUTH'S POUND SQUARE FLINT-GLASS HONEY-JARS, with patent air-tight GLASS STOPPERS, at $5.50 per gross. FAR SUPERIOR TO OLD STYLE WITH CORKS. Try a gross. Just the thing for home market.

CRATES OF TWO 60-lb. CANS, been used once, in good condition, in lots of 5 crates, 40c each; 10 or more, 35c. This lot is limited; order at once.

QUEENS! The Best Money Can Buy!

BUCKEYE STRAIN 3-BANDED are the genuine RED CLOVER WORKERS. MUTH'S STRAIN GOLDEN ITALIANS can not to be surpassed. Either of above, 75c each; 6 for $4.00. Selected tested, $1.50 each.

A trial will convince you. Send for our catalog of **BEE-SUPPLIES.**

THE FRED W. MUTH CO., Front & Walnut Sts., Cincinnati, Ohio.

Please mention Bee Journal when writing

Queens Now Ready to Supply by Return Mail

Stock which cannot be excelled. Each variety bred in separate apiaries, from selected mothers; have proven their qualities as great honey-gatherers.

Golden Italians Have no superior, and few equals. Untested, 75 cents; 6 for $4.00.

Red Clover Queens, which left all records behind in honey-gathering. Untested, $1.00; 6 for $5.00.

Carniolans —They are so highly recommended, being more gentle than all others. Untested, $1.00.

ROOT'S GOODS AT ROOT'S FACTORY PRICES.

C. H. W. WEBER, 2146-2148 Central Avenue, CINCINNATI, OHIO.

(Successor to Chas. F. Muth and A. Muth.)

Please Mention the Bee Journal when writing Advertisers *****

healthy and fine looking. The bees refuse to work in sections.

We had a warm winter, and the bees were very strong and active in March, and had hives full of brood. We had a cold May, and brood-rearing checked. In June we had a freeze that killed all bloom, and bees almost starved. During the freeze, and after, a great many bees went out and never came back in their hives. In spite of heavy feeding brood-rearing almost ceased, and bees nearly starved. About July 5 the alfalfa bloom seemed to begin to yield honey all at once, and the bees within two or three days filled every cell with honey, and as they had become somewhat weakened in June they were not in condition to fill the sections, so they are cramming every cell in the brood-chamber with honey and doing almost nothing in sections, and getting weaker every day. As there is now a very severe drouth we are likely to have our first experience in failure this year.

The colonies having a super of half-depth extracting-frames fared some better, as the bees began to fill them as soon as the honey came, and when I raised them and put sections under, the work went right on as long as the honey-flow lasted, and the brood-chamber was relieved so that those colonies are in fair condition. I have extracted some of the small frames and given them to the bees that had no brood, and it acts like a charm. The bees are storing in the extracting-combs and giving the queens room so that the colonies may be in condition for a flow if we have one.

I am getting to be a stronger advocate of producing both comb and extracted honey at

DAIRYMEN ARE DELIGHTED

to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.

DRAPER PUBLISHING CO., Chicago, Ills.

Every Reader of the American Bee Journal who is ailing or in poor health or has some friend or relative that is sick, should be interested in the offer on page 607, headed, "PERSONAL TO SUBSCRIBERS," made by the Theo. Noel Company, of Chicago, Ill. This Company is the proprietor of the famous Vitae-Ore, a natural mineral medicine which they offer to send out on 30 days' trial to every ailing person who requests it, and will promise to use it carefully according to directions.

ARLINGTON SEWING MACHINES ARE EASIEST RUNNING BECAUSE BALL-BEARING.

$14.75

Elegant Polished Swell Front Oak Cabinet with or without Italian Marquetry Decorations. Latest and most stylish design. Guaranteed for 20 years.

250,000 DISCRIMINATING WOMEN

Everywhere are using (many of them for seventeen years past) the

Celebrated Easy Running Ball-Bearing No. 9 Arlington

The acknowledged triumph of the craftsman's skill and the finisher's art. **Made only from the most severely tested material.**

SEND NO MONEY

Just go to your nearest banker or responsible merchant, deposit with him the purchase price of this machine and send us this **Certificate of Deposit—or a copy of same on a separate sheet:**

OUR LIBERAL NO RISK CERTIFICATE OF DEPOSIT

This is to Certify

THAT Mr. .....of Town.....State.....

has deposited with the undersigned the sum of $14.75 in payment of No. 9 "Arlington" Machine ordered of the CASH BUYERS' UNION, of Chicago, with the understanding that this money is to be held by me for 30 days, while the purchaser gives the machine a trial at home, and is to be sent to the CASH BUYERS' UNION at the expiration of the 30 days, unless the purchaser is dissatisfied, in which event I am to refund the money to the purchaser on presentation of Bill of Lading, showing the return of the machine.

30 DAYS FREE TRIAL Signature of Banker.....

Date..... Town..... State.....

The **Arlington** is a double lock stitch, vibrating-shuttle machine, **high grade, highest arm,** containing the most modern improvements, equal to the **Singer, Domestic, New Home, Wheeler & Wilson and other machines** sold through dealers at from twice to three times our price. Mounted on **BALL-BEARING STAND**—doubling its speed. The cabinet work is our **new model 5-drawer** Drop Head Cabinet in the latest and most popular design. **Swell front,** made of select oak, finished with a beautiful mirror-like **antique golden oak finish** and handsomest **marquetry** decorations. With every **BALL-BEARING ARLINGTON** we furnish FREE the handsomest and most complete set of highly polished Nickeled Steel Foot Attachments affording endless variety of work. **$14.25** Also furnished plain for **Estab. 1885. 250,000 machines sold. Testimonials from every state.**

We can furnish you almost **Any Kind or Style** of a machine at a saving of from **$10 to $45**

Write for our complete Illustrated Catalogue, showing every style and sample of work. Address all orders and letters plainly to

DIRECT FROM FACTORY SOLD

Immediately on receipt of this certificate we will ship this regular $65 strictly high-grade **Ball-Bearing ARLINGTON** Sewing Machine on **30 Days' Trial** as above explained

NOTE—If you send **cash in full** with your order we will refund your money, including the freight charges, if at any time within **one year** you become dissatisfied with your purchase for any reason.

THE BALL BEARINGS prevent friction and afford absolute ease to the operator. The balls are large size made from fine tool steel and run in an oil tempered steel cup which is adjustable.

PROMPT SHIPMENTS

There will not be any delay in filling your order, we have the machines, thousands of them, all tested and crated ready for shipment.

CASH BUYERS' UNION, Dept. M 609 CHICAGO, ILL.

The Cash Buyers' Union is a thoroughly reliable concern. Its announcements have appeared in this paper from its very beginning. Thousands of machines have been sold to our readers and we add our guarantee of satisfaction to that of the Cash Buyers' Union.—Editor.

☞ IT IS VERY IMPORTANT THAT YOU MENTION THE AMERICAN BEE JOURNAL WHEN WRITING TO THE CASH BUYERS' UNION. PLEASE DO SO.

the same time, in the same apiary. I have believed-in it for the last six years, and this year has decided the question for me. As soon as possible I shall have a super of small frames for every hive I possess. Some seasons there is but little advantage in them, and I should not use, perhaps, more than half of them after they were taken off in the spring, but even that half would pay for itself in getting the bees into the sections, and this other half would be used over and over on the colonies that were inclined to loaf, securing many a pound of honey that I should not get otherwise.

Greasing the Valve of a Smoker.

This is recommended by S. E. Miller. He says in the Progressive Bee-Keeper:

Probably every one knows that machinery works best if well greased, but I doubt whether many bee-keepers know that a smoker requires greasing. Yet they all know that at times a smoker gets choked up and wheezy. This is caused by the sticky, sooty accumulation being sucked back into the bellows, because the valve gets stuck and does not admit the air freely into the bellows. The more of this accumulation that gets sucked into the bellows the worse the valve will stick, and the worse the valve sticks the more of it is sucked back, so that we have an aggravated state of affairs. To keep the valve from cleaving to the inside of bellows, oil it freely with machine oil, or any good lubricant, and as often as it shows a tendency to cleave give it more oil. If the valve has become thickly coated with the soot, it may be necessary to take the bellows apart and put in a new valve. Then keep the valve thoroughly oiled, and you will have very little trouble. This sooty accumulation is much worse in damp weather when the atmosphere is heavily charged with moisture, than it is in dry, clear weather. We should, therefore, watch the smoker to see that it does not get "stuck on itself" at such times.

CONVENTION NOTICES.

Utah.—The Utah Bee-Keepers' Association will hold the annual convention in the City and County Building, Salt Lake City, Utah, Oct. 6, 1902, at 10 a.m. Business of interest to all bee-keepers will be presented. All are invited.

J. B. FAGG, Sec.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held at the Court House in Freeport, Ill., on Tuesday and Wednesday, Oct. 21 and 22, 1902. All interested in bees are invited to attend.

Cherry Valley, Ill. B. KENNEDY, Sec.

New Jersey.—The first annual meeting of the New Jersey Bee Keepers' Association will be held at 10 a.m., Thursday, Oct. 2, in the Club House on the Inter-State Fair Grounds, Trenton, N. J. We extend a most cordial invitation to all bee-keepers, and others interested in bee-culture, to be present.

GEORGE N. WANSER, Sec.
B. F. ONDERDONK, Pres.

PERSONAL TO SUBSCRIBERS

WE WILL SEND to every subscriber or reader of the American Bee Journal a full-sized ONE DOLLAR package of VITÆ-ORE, by mail, POSTPAID, sufficient for one month's treatment, to be paid for within 1 month's time after receipt, if the receiver can truthfully say that its use has done him or her more good than all the drugs and dope's of quacks or good doctors or patent medicines he or she has ever used. READ this over again carefully, and understand that we ask our pay only when it has done you good, and not before. We take all the risk; you have nothing to lose. If it does not benefit you, you pay us nothing. VITÆ-ORE is a natural, hard, adamantine rock-like substance—mineral—ORE—mined from the ground like gold and silver, and requires about 20 years for oxidization. It contains free iron, free sulphur and magnesium and one package will equal in medicinal strength and curative value 800 gallons of the most powerful, efficacious mineral water, drunk fresh at the springs. It is a geological discovery, to which there is nothing added or taken from. It is the marvel of the century for curing such diseases as Rheumatism, Bright's Disease, Blood Poisoning, Heart Trouble, Diphtheria, Catarrh and Throat Affections, Liver, Kidney and Bladder Ailments, Stomach and Female Disorders, La Grippe, Malarial Fever, Nervous Prostration and General Debility, as thousands testify, and as no one, answering this, writing for a package, will deny after using. Give age, ills and sex

This offer will challenge the attention and consideration, and afterward the gratitude of every living person who desires better health, or who suffers pains, ills and diseases which have defied the medical world and grown worse with age. We care not for your skepticism, but ask only your investigation, and at our expense, regardless of what ills you have, by sending to us for a package. You must not write on a postal card. In answer to this, address,

THEO. NOEL COMPANY, Dept. J. P., 527, 529, 531 W. North Ave., CHICAGO, ILL.

27 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 27 cents a pound—CASH—for best yellow, upon its receipt, or 29 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

We are the Largest Manufacturers of Bee-Keepers' Supplies in the Northwest

Send for catalog.

Minneapolis, Minn.

We have the Best Goods, Lowest Prices, and Best Shipping Facilities.

Have You Seen Our Blue Cat-

alog? 60 illustrated pages; describes EVERYTHING NEEDED IN THE APIARY. BEST goods at the LOWEST prices. Alternating hives and Ferguson supers. Sent FREE; write for it. Tanks from galv. steel, red cedar, cypress or fir; freight paid; price-list free.

KRETCHMER MFG. CO., box 90, Red Oak, Iowa.

Agencies: Trester Supply Co., Lincoln, Neb.; Shugart & Ouran, Council Bluffs, Iowa; Chas. Spangler, Kentland, Ind. 12E26t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 9.—Comb honey is beginning to come forward and is meeting with fair demand. The prices at present are 15@16c for the best lines of No 1 to fancy white; other grades are wanted at 2 to 5 cents less per pound, but they are scarce. Extracted sells at 6@7c for white, according to the kind and quality; 5½@7c is obtainable for the amber grades. Dealers are seeking what they term a "buney" flavor more than ever before, as they say their customers demand more sweet taste in honey. Beeswax is scarce, and brings 30c.

KANSAS CITY, Sept. 13.—The demand still continues good for comb honey, but receipts are very light and meet with ready sales at these quotations: Fancy white comb, 15c; No. 1 white, 14c; No. 2 white and amber, 13c; dark, 12c. Extracted, white, 6@6½c; amber, 5@5½c. Beeswax, 22@25c. C. C. CLEMONS & CO.

CINCINNATI, Aug. 30.—The demand for comb honey at present is very good; all shipments are sold quick at 15@16c for No. 1 and fancy. We advise shipping while demand is good and before the western carloads are here. In three weeks from now carloads will arrive, then demand is satisfied, sales harder to make, and prices demoralized. Extracted honey is selling as fast as it arrives, at the following prices: Amber and Southern in barrels, at 5½@6½c, according to the quality. White clover, 7½@8c. Beeswax is scarce at 30c.

THE FRED W. MUTH CO.

ALBANY, N. Y., Aug. 22.—The demand for honey is improving with the unusual cool weather, the summer resorters returning home hungry. We quote: Extra white comb, 15@16c; medium, 14@15c. No other grades coming yet.

We want to caution shippers against shipping by express, as it arrives almost invariably broken. Express companies are stamping the cases "Received at owner's risk," which seems to cause their employes to "play ball" with it. Freight handlers are slower, more careful, and less broken, and much cheaper. We advise sending by freight only. H. R. WRIGHT.

NEW YORK, Aug. 11.—New crop comb honey from New York and Pennsylvania is beginning to arrive in limited quantities. There is a good demand for fancy white at 14c, and No. 1 at 13c, and exceptionally fine lots will possibly bring a little more. Lower grades quiet at from 10@12c. As to extracted honey, fancy grades are in good demand at from 6@6½c for white, and 5@5½c for light amber. Southern in barrels and half-barrels quiet at from 47 @60c per gallon, according to quality. Beeswax dull at from 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Aug. 29.—New comb honey is not coming in so plentiful, so far. Whatever has come in, and is fancy water-white, has brought a good price, and sold to stores at from 15@16c. Honey kept over from last year, fancy sells for 14c. The market for extracted is more lively and brings: Amber, from 5@5½c; alfalfa water-white, from 6@6½c; white clover, from 7@7½c. Beeswax, 28c. C. H. W. WEBER.

SAN FRANCISCO, Aug. 20—White comb, 13@14c; amber, 10@12c; dark, 8@9c. Extracted, white, 5½@5½; light amber, 5@5¼; amber, 4¼@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

Not much offering or arriving of any sort. While the market is firm throughout, current values are being better sustained on comb than on extracted, for the reason that the latter has to depend to some extent on outside demand. All the comb honey offering will be required locally. The shipment of comb honey has never proven satisfactory, and the production is in consequence restricted to small compass.

Wanted—Extracted HONEY. Mail sample, and state style of package and price delivered in Chicago.

John F. Campbell, 53 River St., Chicago, Ill.
34Atf Mention the American Bee Journal.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no drip cases.

THE FRED W. MUTH CO.
32Atf Front and Walnut, CINCINNATI, OHIO.

BEE-KEEPERS,
Save Money by Buying
Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF
THE W. T. FALCONER MFG. CO.,
Jamestown, N. Y.
☞ Our goods are guaranteed of superior quality in every way.
Send for our large illustrated catalog, and copy of
THE AMERICAN BEE-KEEPER,
a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)
☞ W. M. GERRISH, E. Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.
Please mention Bee Journal when writing.

$300,000,000.00 A YEAR
and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.
Please mention Bee Journal when writing.

Home Visitors' Low-Rate Excursion.

Sentiment inspired by patriotism has, and it is to be hoped always will afford, a one-cent-a-mile rate to enable the "Boys in Blue" to assemble in reunion at least once a year, from all points of the compass. Such a rate is authorized from all points east of Chicago to Washington for this purpose in October, 1902. Such a rate has been afforded once a year since the first reunion of the veterans of the war of '61. This especially low rate has become popular, not only for the purpose for which it was established, but for other purposes, chief among which we recognize the opportunity thus afforded to visit friends, at or convenient to, the place of reunion, because of the low rate, and because of the favorable opportunity by reason of the liberal extension of time limit for return.

On dates authorizing sale of Grand Army Excursion Tickets to Washington, for the Reunion of 1902, are also authorized similar reductions in rates, from all points west of Chicago, with time limits the same as on such tickets to Washington, excursion tickets to any point in the territory of the Central Passenger Association, on or reached by the Nickel Plate Road. For full information call on your most convenient interline ticket agent by mail, wire, phone, or in person, or on John Y. Calahan, General Agent Nickel Plate Road, 113 Adams St., Chicago, Ill.
38A1t

BEE-SUPPLIES!
ROOT'S GOODS AT ROOT'S PRICES
Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.
WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

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25th Year Dadant's Foundation 25th Year
We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.
Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.
Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.
Bee-Keepers' Supplies OF ALL KINDS *****
Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.
Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.
BEESWAX wanted at all times.....
DADANT & SON,
Hamilton, Hancock Co., Ill.

Honey Wanted.
We can use the following:
Please submit samples of Extracted and quote prices (delivered, if possible.)
State from what source gathered and how soon you can ship and quantity of each grade offered:
1st.—Alfalfa Comb in car lots.
2nd.—Alfalfa Extracted in car lots.
3rd.—Car Buckwheat Extracted or other dark or amber honey.
4th.—Car Basswood Extracted.
5th.—White or Sweet Clover Comb and Extracted in any quantity.
6th.—Comb Honey in Danz. sections. For the latter we will pay a fancy price, as we have a market for the same which we have not been able to supply.
THE A. I. ROOT CO.,
MEDINA, OHIO.
GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL.,
are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO.
Send to them for their free Catalog.

Advantages of Membership in the National Bee-Keepers' Association.

MRS. H. G. ACKLIN. V. SHEBAT.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., SEPT. 25, 1902.

FORTY-SECOND YEAR
No. 39.

APIARY OF MR. W. H. HORSTMANN, OF COOK CO., ILL.—(See page 612.)

A STANDARD-BRED

QUEEN-BEE FREE

To Our Regular Paid-in-Advance Subscribers.

We have arranged with several of the best queen-breeders to supply us with **The Very Best Untested Italian Queens** that they can possibly rear—well worth $1.00 each. We want every one of our present regular subscribers to have at least one of these Queens. And we propose to make it easy for you to get one or more of them.

In the first place, you must be a regular subscriber to the American Bee Journal, and your own subscription **must be paid in advance.** If it is not already paid up, you can send in the necessary amount to make it so when you order one of these fine Queens.

A Queen Free for Sending One New Subscriber

Send us $1.00 and the name and address of one **NEW** reader for the American Bee Journal, and we will mail you one of the Queens free as a premium.

Now, go out among your bee-keeping neighbors and friends and invite them to subscribe for the old American Bee Journal. If you want some to show as samples, we will mail you, for the asking, as many copies of the American Bee Journal as you can use.

Should there be no other bee-keepers near you, and you desire one of these fine Queens any way, send us $1.50 and we will credit your subscription for one year and also mail you a Queen. Of course, it is understood that the amount sent will pay your subscription at least one year in advance of the present time. So, if your subscription is in arrears, be sure to send enough more than the $1.50 to pay all that is past due.

As the supply of these splendid Queens is limited, we prefer to use all of them as premiums for getting new subscribers. But if any one wishes to purchase them aside from the Bee Journal subscription, the prices are as follows: One Queen, 75c.; 3 Queens, $2.10; 6 Queens for $4.00.

We expect to be able to fill orders by return mail, or almost as promptly as that, so there will be no great delay at any rate.

Now for the new subscribers that you will send us—and then the Queens that we will send you! Address,

GEORGE W. YORK & CO.,

144 & 146 Erie St., CHICAGO, ILL.

☞If too late for this season, we can book your orders for Queens to be mailed in May, 1903.

☞If too late for this season, we can book your orders for Queens to be mailed in May, 1903.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., SEPT. 25, 1902. No. 39.

Editorial Comments.

The Denver Convention Report we expect to begin to publish next week. It will be interesting reading. It would be a good time now to get your neighbor bee-keepers to subscribe for the American Bee Journal, to begin with the number commencing the Denver convention report. Why not do it?

The National Bee-Keepers' Association.—In this number of the American Bee Journal will be found two articles which bear on the advantages or benefits to be derived from a membership in the National Association. In view of the statements made by Mr. V. Shebat, of Minnesota, it seems to us that instead of only 1000 bee-keepers being members at present, there ought to be from five to ten thousand members.

We do not see how any bee-keeper can feel that he can afford not to be a member. It costs only $1.00 a year, and even if a member receives no direct benefits himself, he has the satisfaction that he is helping in a splendid cause.

The National Assocation has done more, perhaps, than all other bee-keepers' organizations combined, in this country, to place the industry of bee-culture on a firmer foundation, and secure for it the rights that it justly deserves. But its work has only begun. And yet, in view of its wonderful success with only a handful of members and dollars, what might it not do if it had five or ten times as many members and dollars?

We trust that all the readers of the American Bee Journal will join as soon as possible. We stand ready to receive their membership dollars and forward them promptly to the General Manager, if it is more convenient to send the money to us than to him direct.

Shall we not have a rapid stream of new members and dollars flowing in from this time on?

The Mission of Drones.—Prof. J. W. Spengel, of the University of Giessen, contributed to the Deutsche Revue an article of which a translation was published in the Literary Digest. This translation is copied in the Rural Californian, and at its close C. N. Wilson makes the following comment:

Dr. Joseph Warder, of Crydon, England, in his now rare work entitled, "The True Amazons, or the Monarchy of Bees," published in London in 1765, devotes a chapter on heredity of bees, and handles the subject from a practical standpoint, giving the drone bee credit for generating the heat in the hive, whereby the temperature is maintained in the hive sufficient to hatch the eggs, both of queen, workers and drones.

The translator for the Literary Digest is therefore in error when saying, "The entire mission of the queen and drone is reproduction of their species; the queen being assiduous in the deposit of eggs, the drones stupid and slothful." Dr. Warder understood the drone's duties and usefulness better in 1765 than the translator for the Literary Digest does in 1902.

It is just possible that the translator for the Literary Digest may be so ignorant about bees as not to know a drone from a worker, but is it fair to hold him responsible for the sins of Prof. Spengel? If he has made a faithful translation, he can hardly be said to be in error.

The question is whether Prof. Spengel or Mr. Wilson is in error. Prof. Spengel has plenty of company in believing that no special value attaches to the drone as a heat-producer. Does Mr. Wilson believe that by having a full frame of drone-comb in the hive there will be more heat produced than if no drone-comb was in the hive? An equal weight of workers will produce just as much heat as drones, and this heat costs nothing, for the workers will produce more heat while busily acting as nurses than while remaining idle like the drones. The time when the drones produce the greatest amount of heat is when they are out of the hive whetting their appetites for a fresh meal to be taken when they return, and this heat can hardly be said to be utilized.

How to Burn Foul Brood.—The editor of Gleanings insists strongly that it should be "burned at night, when the bees are all in the hive." If done in the day-time there is danger that some of the bees will carry the disease into other hives. He does not advise burning bees as well as combs, except in very bad cases, or when it is the only case known in the bee-yard. A detailed account of the way he treated one case when he could not throw all into a boiler-furnace is thus given:

Once, when treating a case of foul brood, or, rather, burning it up, in an outyard, I started a big blaze in a brush-heap near-by; but to make the blaze hotter I threw on a quart of coal-oil. Then I placed the hive as near the fire as I could, picked out the combs and the bees, and threw them one by one into that raging flame. When the bees flew up (for it was night) they would go right into the fire, of course, and that was the end of them. Then I took the hive, held it up by means of a pitchfork, and thoroughly scorched the walls inside and out. Next, in like manner, I treated the cover; but while the fire was raging I could see the melted wax running down between the fiery embers to the ground. I marked the spot, and when the brush-heap burned down I raked the hot coals right over that place, then pawed over the ground with a rake and pitchfork. I made up my mind that I would thoroughly disinfect the ground; and the next morning I found the live coals had been so hot that the clay was turned red—in fact, it was turning into common brick. I had no doubt the whole thing had been disinfected, including the hive.

Writing for the Papers.—Barring the high price put upon pen and pen-holder, the following words from the editorial columns of the Bee-Keepers' Review are well spoken:

A bottle of ink can be bought for five cents. A pen and wooden pen-holder for five cents more. There is no

excuse for not having these two articles in every house where there is any occasion for their use; and when they are provided, let them be used whenever there is a letter or postal to write.

One thing more, good writing paper is cheap enough so that there is no excuse for using the thin, slazy, spongy, dingy stuff that is sometimes used.

I am led to make these suggestions, as so many communications come to this office, and I presume it is the same at other offices, which are written in pencil on a postal, and the shuffling about in the mails often rubs the writing until it is scarcely visible. Then, to add to the difficulty, the writer often miscalculates the length of his communication, and, as he approaches the bottom of the card, he crowds the words closer and closer, and writes finer and finer, and the signature is so crowded that it is often impossible to decipher it. If you find that a postal will not hold all that you wish to write, throw it aside and take a sheet of paper. If one sheet will not hold it, take another.

Attention to these things will add greatly to the comfort of those with whom you have correspondence, and may be to your own advantage, as a communication that is undecipherable, or that is misunderstood, may result in a serious disappointment to the writer.

By way of postscript, however, it may be well to say that if you have learned some fact as to bee-keeping that has not before been given to the public, no matter how little a fact, editors will be glad to have you write upon "any old thing" in any old or new way, just so they get the fact, and they will appreciate it all the more if they can read it first time trying.

The Weekly Budget.

MR. FRANK B. WHITE, formerly of the well known Frank B. White Company, of Chicago, has been employed as Advertising Manager of the American Bee Journal, and will assume his duties at once. He recently disposed of his interest in the company which he organized, and which has been so successful under his able management. We have known Mr. White intimately for a number of years, and count him as one of our most highly esteemed personal friends. And in adding him to our force of helpers, we know we have secured the services of a gentleman whose knowledge of the advertising business will not only add to our patronage along this line, but whose original methods will make the American Bee Journal more valuable to our patrons. With 16 years' experience as a promoter of good advertising, Mr. White knows how to originate effective methods of publicity, and the great business built up by the Frank B. White Company, while he was at its head, is the best evidence of his capacity in this direction. No man is better known among advertisers than Mr. White, and we are free to say no man has built up and maintained a better reputation than he bears to-day.

Frank B. White.

We are pleased to introduce Mr. White to our readers and advertisers, and we trust the latter will feel free to confer with him in regard to their advertising, for he will likely be able to help make it more effective and profitable in every way, and thus not only be a great aid to the advertisers, but also to the old American Bee Journal.

We bespeak for our Advertising Manager the hearty co-operation and encouragement of all in his important work.

We feel like congratulating our advertisers, and ourselves as well, in being able to secure the services of Mr. White.

PRES. W. Z. HUTCHINSON AND O. L. HERSHISER called on us when on their return trip from the Denver convention. Mr. Hershiser is the vice-president of the National Bee-Keepers' Association for 1902. He is one of the big bee-keepers of New York State—both in number of colonies and in his avoirdupois.

MR. M. M. BALDRIDGE, of Kane Co., Ill., gave this office a pleasant call last week. He is one of the oldest bee-keepers in the ranks, and yet one of the liveliest in every way. He and Dr. C. C. Miller are a pair of "old timers," and yet in spirit and "git-up-and-gitness" they are as much "new timers" as any can possibly be.

DEATH OF FRANK BALCOM.—Mr. Francis H. Drake, of Worcester Co., Mass., wrote us as follows Sept. 11:

"I beg to inform you of the sad death of my esteemed friend and brother bee-keeper, Mr. Frank Balcom, of East Brookfield. He died Aug. 22, of typhoid fever. He started right by getting the "A B C of Bee-Culture" and the American Bee Journal, and showed great interest in the study of apiculture. I feel that we have lost one who would have been a credit to the craft. He was 21 years of age."

MR. THOS. CHANTRY, of Clay Co., S. Dak., recently met with a great misfortune, in the loss by fire of his crop of honey, worth about $1200, and a house and contents worth as much more. Nothing was saved. Mr. Chantry was working at an out-apiary at the time of the fire, and the man who was working where the fire occurred had gone to dinner, and as there was no water-works all was destroyed. This loss will undoubtedly fall very heavily on Mr. Chantry, but he is a man not easily discouraged, and in time will be on top again. That's a way those South Dakotans have.

MR. WM. H. HORSTMANN, and his good little wife, are two of the best bee-keepers in this (Cook) County. And they have one of the prettiest apiaries we ever saw. We show a part of it on the first page this week. We visited it on Saturday, Aug. 16. In the center of the yard, as will be seen, is a miniature model of the National Capitol Building, at Washington, D. C. Mr. Horstmann made it all with his own hands last winter. Of course he is a genius, as well as one of Uncle Sam's numerous family of postmen.

There are three full colonies and one nucleus in this Capitol Building. Across each end (one named "Garfield" and the other "McKinley") is a colony having about 30 Langstroth frames, all in the brood-chamber; the center hive (named "Lincoln"), which extends from one end colony to the other, has about 40 frames. These three are really "Long Ideal" hives. The rear colony is a three or four frame nucleus. It will be seen that there is room in this unique fourfold "hive" for a good many bees. They were put in on July 4, and as the season has not been a good one, none of the colonies in it were strong. Undoubtedly it is the only "hive" of the kind in the world. The

whole building rests on a raised cement platform. It is indeed a curiosity, with its little columns and gilded dome surmounted with a miniature statue that reminds one a little of "Liberty Enlightening the World."

Mr. Horstmann has all his colonies named as well as numbered. For instance, there are Doolittle, Dr. Miller, Root, Dadant, Mason, Yates, Brown, Duff, Mary, etc. Some hives are double, and are set up on posts, as he used to cultivate the ground as a garden. Now it is all a beautiful lawn, but he has let the short posts stand just the same.

Last year he had a crop of 1700 pounds of comb honey from 19 colonies. This year he has some 30 colonies, but doesn't expect much of a crop of honey.

From Mr. Horstmann's apiary we went about two miles on street-cars to see Mr. P. N. Duff's beautiful apiary, managed by Mr. Frank Brown. But Mr. Duff was not at home. He has over 150 colonies. But we will have to go and see it again some time when Mr. Duff is at home, and then tell our readers all about it.

Convention Proceedings.

Some Facts in Favor of Joining the National.

Read at the last Minnesota Bee-Keepers' Convention

BY MRS. H. G. ACKLIN.

We were on the verge before of seriously disscussing this very important proposition, and now that we are fully launched I trust we will remain in the turbulent waters until every bee-keeper in Minnesota has his or her name enrolled as a member of the National Bee-Keepers' Association.

If bee-keepers will commence thinking about this matter seriously and intelligently, and without prejudice of any kind, I feel sure that the result of such thinking will be to bring every one into the Association. Every one will admit that we need something of the kind; and if this Association does not quite come up to our standard in this, that or the other thing, let us bring it up to where we want it in every particular. The members have the power to do that very thing. The Association is wholly democratic. Its officers are elected by the members. If a change in the constitution is proposed, it must be ratified by a vote of the members. One person has just as much "say" as another, no matter if the other fellow can talk louder and longer.

There is no class of bee-keepers but need something more majestic, more awe-inspiring, as it were, to refer inquisitive people to, than their own State association. The millennium is not quite here; consequently we have with us yet some people who are envious and spiteful to a certain extent. They do not like to see their neighbor "get on" in the world; and if they can cause him trouble and expense without much trouble to themselves, they are happy. Bee-keeping seems to be such an easy business to attack. Some one gets stung, maybe by a hornet or wild bee; but there is a bee-keeper in the vicinity and he is made to suffer. The wrathy stingee comes to him and says:

"I got stung by one of your bees, and am going to take steps immediately to have them removed."

The chances are he would not use quite as mild language as the above. Then is the time, if the bee-keeper did not belong to the National, that his heart would go pit-a-pat. But he does belong to the National, and he calmly says:

"Very well, my friend; but before you commence proceedings it might be well for you to look into this thing a little. Every bee-keeper in the United States and Canada stands behind me with their money and influence ready to help if I am unjustly attacked."

The stingee grumbles some more, but goes away with a more serious look on his face, and the bee-keeper hears nothing more about it.

You may say that this supposititious case is overdrawn. Not so; I will cite you a circumstance of our own with the same result minus the sting.

The house next to us is rented. The tenant came in after the bees were put into the cellar. He was a shiftless fellow; his wife did washing to support the family. Before the bees were taken out in the spring he went to his landlord and said he could not live there on account of the bees; but if the rent could be reduced he would try and put up with the bees! Just remember, he had not yet seen the bees!

The landlady came to our house perfectly wild. We could not reason with her; in fact, she would not listen to a word from us. After about an hour we managed to get in a word about belonging to two bee-keepers' unions, while she was taking breath. The effect was magical. In a few minutes she cooled down, and we were able to talk with her. When she found that her tenant had not even seen the bees, she was disgusted and said he should not live there if he wanted to.

There is another instance of a disgruntled man. He was working for us, but did not do his work well. We let him go and he was angry. He and another envious person were planning to get up a petition to have our bees removed. Some of our friends told us about it, and we spoke about belonging to the National, and that news became circulated around, and we never heard anything more of the plot. These same people are as friendly to us now as of yore. We never speak of belonging to the National Association unless forced to do so.

Again, there are other good offices of as much importance as the above which a National Association can perform. The matter of adulteration is a very serious affair, and is being coped with successfully in several places, as we will see later. Dishonest commission men is another evil which the National must fight. Helping the bee-keepers to dispose of the honey crop to the best advantage is another branch of work which the National organization will take up more fully later on.

There is no limit to the amount of good this Association might do, if it only had the moral and financial support of every bee-keeper, but it can not work single-handed. There must be funds to meet the expense of all this work; and there must be co-operation and sympathy in the rank and file of bee-keepers to give the officers courage to go ahead and do the greatest amount of good in all branches of the work.

I think we have reason to be proud of the record made by the National Association in the past. And it need not take a prophet, nor even the son of a prophet, as we peer into the dim future, to see, nay, almost to realize, the great results for good which this organization can and will accomplish if not handicapped for funds.

Now, dear friends, I believe it would be an advantage to all of us to join the National Association in a body. That means 50 cents for our State Association and 50 cents for the National Association. That is a saving of 50 cents each, as the membership fee in the National is $1.00 if we join singly.

After I was put on the program for this paper, it occurred to me that Mr. E. R. Root would be an excellent person to get some facts from, and I wrote to him to that effect, with the following result:

ADVANTAGES IN JOINING THE NATIONAL.

MRS. ACKLIN:—You ask for some facts in favor of joining the National Bee-Keepers' Association. Stating them off-hand, and on the spur of the moment, they come to my mind about as follows:

It is the only national organization that is putting up an effective and successful fight against adulteration. Through the efforts of the organization Illinois has a pure food law, and through the action of that law adulteration of every form has been practically driven out. When it is remembered that Chicago was the very hotbed of the honey-mixing business, the work of the organization stands out as something to be proud of.

But not only in Illinois, but in several other States, the organization has been doing effective work against adulteration.

Second—The National Bee-Keepers' Association has, through the operation of law, brought about many valuable precedents, so many of them, in fact, that bees would not be declared a nuisance, and in every city or incorporated village of the United States they are allowed to be kept. The organization brought about this result by appealing to the Supreme Court of Arkansas in the Arkadelphia case, and won in this court. It has defended the rights of bee-keepers in various kinds of suits, and in every case has won. You are doubtless familiar with the full facts con-

cerning the Utter vs. Utter case, that resulted in a verdict for the bees. Many other incidents might be cited, but I can not give them from memory.

Third—The National Bee-Keepers' Association is the only organization that is national in its general character. It is, therefore, the representative national body through which the interests of bee-keepers throughout the United States are cared for. Besides the annual meetings, which are a constant source of inspiration and help to the bee-keepers wherever it goes, it has added to its credit something like $1000, and a membership of nearly 1000 bee-keepers. Its power is getting to be tremendous; but there are many things it can not do for lack of funds and lack of membership; and every one who is interested in advancing the interests of bee-keeping should enroll himself as a member. Your whole organization ought to join in a body, thus securing the privilege of the benefits at 50 cents per member; but to get this rate of 50 cents your society should *join in a body*.

Yours respectfully,
E. R. ROOT.

Mr. Root was president for two years, and has been one of the directors for a number of years of the National Association, and knows whereof he speaks.

We have attended the last three National conventions, and, I tell you, it is a treat no bee keeper should miss. If one ever comes your way be sure to make an extra effort to attend. The deliberations are interesting and instructive, and one realizes, as never before, the hearty good-will existing among bee-keepers.

Contributed Articles.

Benefits of Being a Member of the National.

BY V. SHEBAT.

I desire to say a few words through the American Bee Journal to the bee-keepers of America.

I have been a member of the National Bee-Keepers' Association for 12 years, but I have never appreciated the value of a membership in the organization until this summer.

I have lived in this city for many years, and for more than 13 years have kept about 60 colonies of bees on a lot that I own here, and have never had any complaint made to me about my bees doing any damage or being a nuisance in any sense of the word until this summer.

A large church is situated on the corner opposite the lot where my bees are located, but no complaint was ever made that they annoyed or injured any one. This summer a large church school for girls was commenced on the lot adjacent to mine, and a city ordinance was manipulated through our city council declaring it a misdemeanor for any one to keep bees in our city "within 600 feet of any church, schoolhouse, or other public building, or within 300 feet of any dwelling in said city." This ordinance was passed in the latter part of July, and within a few days thereafter two actions were begun against me under said ordinance, and one under our State law, which declares, "Any act or omission which injures, annoys, or endangers the comfort, repose, health, or safety of *any considerable number of persons* a public nuisance." These were all criminal actions, and I was arrested in each case.

The case under the State law was virtually abandoned for lack of evidence, and I was declared not guilty, but the case under the new city ordinance was prosecuted with bitterness and venom. The trial was in our Recorder's Court before a jury, and lasted the whole of one day.

My attorney, Col. J. T. Bowditch, defeuded me on the following grounds, viz.:

1st. That the ordinance was not authorized by our city charter.

2d. That the city council had no power to make a nuisance of any act by passing an ordinance against it, unless the act itself *was in fact a nuisance*.

3d. That the ordinance in question resulted in taking and damaging private property for public use without just compensation to the owner, contrary to the Constitution of the United States and of this State; that it abridged the natural rights of private citizens; that it was unreasonable and unjust.

4th. That if the keeping of bees contrary to the terms of the said city ordinance was a nuisance at all it was a *private nuisance*, for which all persons injured thereby had their redress in the courts, and was such a nuisance that could not be regulated by any general ordinance or law.

These were the main points in my defence, but, of course, each one was greatly elaborated by my attorney.

I am happy to say that the jury returned a verdict "Not guilty," and I have since received the congratulations of many bee-keepers on the happy ending of the vicious fight that was made against me.

My chief object in writing this communication is to thank the National Bee-Keepers' Association publicly for the valuable aid it rendered me in this fight, and to impress upon all bee-keepers the benefits derived from belonging to such an organization.

In the beginning I informed the officers of the Association of the passage of the ordinance and dangers threatening me. *They at once forwarded to me valuable briefs for the use of my attorneys, and suggestions how to proceed if I should be arrested. My attorney says the briefs furnished were of great assistance to him in preparing my defence, that, in fact, they lightened his labors fully one-half.*

After the case was decided I sent to the General Manager, Eugene Secor, a statement of the cases against me, and also a statement of the costs I had incurred in defending myself. I at once received a check for $40, to pay a part of the expenses I had been put to. Surely, this is an Association worth belonging to, and it seems to me that we ought to do all in our power to support and aid any institution that does as much for us as the National Bee-Keepers' Association.

Wabasha Co., Minn.

Flat vs. Grooved Top-Bars—Wiring Frames—Other Devices.

BY F. GREINER.

The ingenuity of man is always at work to improve on the things we use. The V-shaped top-bar was devised to secure straight combs. The wooden comb-guide was to accomplish the same object. But not until comb foundation came into general use did we secure the object sought for perfectly. The next question was, How best to attach the comb foundation to the top-bar of the frame? Different methods are employed. The simplest manner consisted of running melted wax along the top-bar where the comb foundation joined it. Many of us have practiced this for years. Then we thought a saw-kerf would come very handy; consequently we run our top-bars over a saw, placed the foundation in the groove, and fastened it with wax or a wedge. This brought the guide exactly where it was wanted, and appeared satisfactory. Others made top-bars of two halves and secured the foundation between them. This, also, worked well. However, when frames are used a second time a top-bar with a saw-kerf in it can not be so prepared as to make use of the kerf as when the frame was new. The saw-kerf is then nothing but a bother. Many bee-keepers have, therefore, come to the conclusion that a flat, smooth top-bar is best. They may easily be cleaned and made ready to receive again the strip or sheet of foundation..

In order to make a neat and quick job of running the starters on by hot wax a simple little implement comes very handy to dip up and administer the wax. Below is a drawing (Fig. 1) showing the little ladle as I made it. Any one

Fig. 1.—Ladle for Fastening Comb Foundation.

can fix up something of the kind from a piece of stout tin 1¼ inches wide by 5 inches long, and a piece of wood ½ inch square and 4 inches long for the handle.

A tea-spoon may be used for the same purpose, but a ladle, like the one shown, is very much better, as the bowl of the same holds sufficient wax to run on a long strip of foundation, and with it one may direct the stream of wax just to the place where needed without the danger of spilling. It enables one to fasten foundation in the frames as rapidly as I have been able to do it by other methods.

WIRING FRAMES OF COMB FOUNDATION.

When full sheets of foundation are used, I find it at least desirable to wire the frames—even should this not be necessary in order to prevent any sagging. By wiring the frames the foundation is kept exactly in the center of the frames, just where it is wanted. Perpendicular wiring is a surer way to prevent bulging than the horizontal way. Under certain conditions foundation is quite apt to bulge. If, for instance, one wishes nucleus colonies to draw out foundation into combs it is almost necessary to wire perpendicularly. A sheet of foundation inserted in the center of the brood-nest is not likely to bulge out; just so when a young swarm is hived on full sheets. In these instances the bees go to work on both sides of the comb and draw out all cells uniformly, and at one time. Horizontal wiring answers in these cases, and as it is the easier way to wire horizontally, bee-keepers have adopted this system.

When wiring frames it is not necessary to draw the wires extremely taut; but when imbedding with the Spur wire imbedder (which I consider the best tool for the purpose), the forefinger of the left hand may be made to go in advance of the tracing wheel, pulling the wire down so that it will be curving instead of straight across, as Fig. 2 shows. When operating the Spur wire imbedder in this

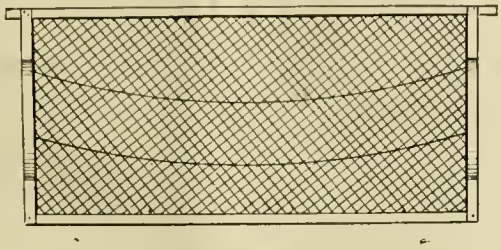

Fig. 2.—Plan of Wiring Frames.

fashion, it has to be pushed from the right to the left; not drawn from left to right. I have filled quite a lot of frames this way, and they have been built out into most beautiful combs without exception.

GETTING FOUNDATION INTO THE SAW-KERFS.

In buying our hive-material we often order the standard goods without making any specification. Top-bars with saw-kerfs come thus into our hands, although we might prefer flat bars. Sometimes these kerfs are not wide enough to let the foundation drop in readily. I just lay the sheet, or strip, of foundation upon the bench, and with a straight edge mash down the cell-walls along the edge. After this procedure the foundation will easily slip into the groove, and may be fastened in the usual way.

POINTED NAIL FOR HOLDING EXTRACTING-FRAMES.

Before closing, I wish to remind those who do any extracting, that a common 8-penny nail driven from the underside through the bar which runs across the uncapping-can is the best thing to rest the frames of honey on when uncapping them. The nail should protrude about 1½ inch above the bar and be filed sharp. I spoke of this at a bee-keeper's meeting several years ago.

These are simple little kinks, and perhaps not worth mentioning. I speak of them because we often plod along following old ruts, when a single word thrown into our path by way of advice by some friend changes our course to our advantage. I have often been helped in this same way by others. Ontario Co., N. Y.

The Bee in Law—Statutory Enactments—Continued from Last Issue.

BY R. D. FISHER.

9. SAME, COUNTY INSPECTOR OF BEES.

(*a*) Laws of Colorado, approved April 16, 1891 (Laws 1891, p. 41), provide for the appointment by the county court, upon application of the Colorado Bee-Keepers' Association, or any five actual bee-keepers resident in any county, of a competent, actual bee-keeper, resident of said county, to be county inspector of bees. Application shall be based upon information and belief that the disease known as foul brood, or any other contagious or infectious disease, exists, and must name the actual bee-keepers of the country, so far as known to the applicants.

(*b*) *Oath of Office.*—The person so appointed shall, within five days, file with the clerk of the court his acceptance of the office, and the usual oath of office. The inspector shall hold office during the pleasure of the court, and until his successor is appointed and qualified.

(*c*) *Bee-keepers Give Notice of Foul Brood—Penalty.*—A bee-keeper or other person aware of the existence of foul brood, either in his own apiary or elsewhere, shall immediately notify the county inspector, if there be one; if not, the Secretary of the Colorado Bee-Keepers' Association, of the extent of such disease, and in default of so doing he shall, on summary conviction before a justice, be liable to a fine of $5.00 and cost.

(*d*) *Duty of Inspector; Owner; Treatment.*—On receiving notice from any source of existence of the aforesaid disease the inspector shall forthwith inspect each colony of bees and all hives, implements, and apparatus, honey and supplies used in connection with such apiary, and mark those he believes to be infected, and notify the owner or agent thereof; and the latter shall, within five days, carry out such treatment of the diseased colonies as may have been prescribed by the State Bee-Keepers' Association for such cases, and thoroughly disinfect, to the satisfaction of the inspector, all hives, houses, combs, honey, and apparatus used in connection with any such diseased colonies; or the owner or agent may elect, within the same time, to destroy said bees, hives, comb, comb-houses, and apparatus, by fire or burial.

It is the duty of the inspector and his assistants, after inspecting hives or fixtures, or handling diseased bees, before leaving the premises and proceeding to another apiary, to disinfect thoroughly their persons and clothing.

(*e*) *Box Hive—Transfer.*—The inspector may, in his discretion, order any owner or possessor of bees dwelling in box-hives in apiaries where the disease exists (being mere boxes without frames), to transfer such bees to movable-frame hives within a specified time, and, in default of such transfer, the inspector may destroy or order the destruction of such hives and bees therein.

(*f*) *Penalty for Selling Diseased Bees or Infected Appliances.*—Any one who knowingly sells, barters, or gives away, moves, or allows to be moved, a diseased colony or colonies of bees, be they queen or workers, or infected appliances, he shall, on conviction before any justice, be liable to a fine of not less than $50 nor more than $100, or to county-jail imprisonment for a term not exceeding two months.

(*g*) *Selling Infected Property; Exposing Infected Things—Penalty.*—Any person whose bees have been destroyed or treated for foul brood, who sells or offers for sale any bees, hives, or appurtenances after such destruction or treatment, before being authorized by the inspector to do so, or exposes in his bee-yard or elsewhere any infected comb honey or other infected thing, or conceals the fact that said disease exists among his bees shall, on conviction, be liable to a fine of not less than $20 nor more than $50, or imprisonment in the county jail not less than one nor more than two months.

(*h*) *Disobedience, and Resistance to Inspector—Seizure.*—When an owner or possessor of bees disobeys the directions of the inspector, or offers resistance, or obstructs said inspector in his duty, the latter may apply to a justice for special constable, to proceed with him to the premises of such owner, and assist the inspector to seize all the diseased colonies and infected appurtenances, and burn them forthwith, and, if necessary, cause the arrest of the said owner or possessor, and have him dealt with according to the provisions of section (*g*).

(*i*) *Inspector Must Read or Deliver Copy of Act.*—The inspector shall read over to such person the provisions of this act, or shall cause a copy thereof to be delivered to him before proceeding against him for its violation.

(*j*) *Annual Report.*—The said inspector shall include in his annual report to the president of the Colorado State Bee-Keepers' Association a statement of his work during the preceding year, the number of colonies inspected, the number diseased, the number destroyed by fire or otherwise, the names of the owners, and the localities where found, and the amount paid to him for his services and expenses for the year.

(*k*) *Compensation—Payment by County.*—The county inspector of bees receives four dollars per day, and two dollars for each half-day necessarily and actually employed, together with his necessary and actual expenses while so em-

ployed, payable by the county as other claims against the county are audited and paid.

10. SAME.

(*a*) *County Inspection of Apiaries.*—Laws of California (Laws of 1901, Chap. XXIV., Stat. 1901), provide that, upon petition of ten or more resident property-holders and possessors of an apiary or place where bees are kept, to the board of supervisors of any county, stating that certain or all apiaries within the county are infected with the disease known as "foul brood," or any other disease infectious or contagious, and injurious to bees, their eggs, or larvæ, that an inspector be appointed by them to supervise the treatment of said bees and apiaries, the said board shall, within 20 days, appoint a suitable person, who shall be a skilled bee-keeper, inspector of apiaries. Upon petition of a like number of resident property-holders, and possessor of an apiary, the board may remove said inspector for cause, after a hearing.

(*b*) *Duties of Inspectors.*—It shall be the duties of inspectors in each county to cause an inspection to be made when he deems it necessary; and if any foul brood, infectious or contagious disease injurious to bees or their eggs or larvæ be found, he shall notify the owner or person in charge of said apiaries, or place where the bees are kept, and he shall require such persons to eradicate and remove such disease or cause of contagion within a certain time to be specified. Notice may be served by an inspector, or by deputy, or after the manner of a summons in a civil action. Any and all apiaries or places where bees are kept, etc., found infected with disease are declared to be a nuisance; and neglect or refusal of the owner or agent to abate the nuisance within the time specified, it shall be the duty of the inspector to abate the same treatment or destroy the infected hives, bees and comb. The expense thereof shall be allowed by the board of supervisors, and paid out of the general funds of the county.

(*c*) *Salary.*—The salary of the county inspector of apiaries shall be three dollars a day when actually engaged in the performance of his duties.

(*d*) The act of 1883, approved March 30, providing for inspection of apiaries, etc., is hereby repealed.

11. SAME.

(*a*) *Bee Inspection; Inspector.*—Laws of Utah (Rev. Stat. 1898, Sec. 139 to 143 inclusive) provide for the appointment by the county commissioners of one or more qualified persons, inspectors of bees for their respective counties. Such inspectors shall hold office for two years, qualify and give bond. No appointment is made except on petition of a majority of the bee-keepers of said county.

(*b*) *Pay of Inspector; Tax on Bees.*—Inspectors shall be paid out of the county treasury for services actually rendered at such rate per day as the board of county commissioners may fix. Each colony of bees is assessed, and taxed in the same manner as other property is assessed and taxed, and collected by the county.

(*c*) *Duties and Powers of Inspector.*—All hives of bees in each county shall be carefully inspected at least once each year by a county inspector, where such inspector has been appointed; and, at any time upon complaint that disease exists among the bees of any person, the inspector to whom complaint is made shall immediately inspect the bees said to be affected. He shall have authority to take charge and control of diseased bees and their hives, and the tools and implements used in connection therewith for treatment; or to destroy such bees, brood, or hives and their contents, or implements, as may be infected. The owner may question a decision of the inspector concerning the presence of disease, and may appeal to three arbitrators selected from among bee-keepers of the county, one each by the owner and inspector, and the third by the two chosen, whose decision, concurred in by two of the number, shall be conclusive as to the condition of the bees at the time of such examination.

(*d*) *Obstructing Inspector—Penalty.*—Any person who obstructs or hinders an inspector in the performance of his duty shall, on conviction thereof, be deemed guilty of a misdemeanor, and fined for the first offense not less than five nor more than twenty-five dollars; and for additional offense, any sum not exceeding fifty dollars.

12. SAME.

Inspection of Apiaries; Inspector; Appointment, Duties, and Compensation.—Laws of Wisconsin (Wis. Stat. 1898, Sec. 1494*f*) provide for the appointment, by the Governor, for a term of two years, a State inspector of apiaries. He shall, when notified of the existence of the disease known as foul brood among apiaries, examine all such as are reported, add all others in the same locality, and ascertain whether or not such disease exists; and, if satisfied of its existence, shall give the owner or person in charge of such apiaries full instructions as to the manner of treating them. Within a reasonable time after making such examination the inspector shall make another examination thereof; and if the condition of any of them is such as, in his judgment, renders it necessary, he may burn all colonies of bees and all comb necessary to prevent the spread of the disease. Such inspector shall, before burning, give the notice provided for, and otherwise proceed pursuant to the provisions of section 1492*b* (covering the slaughter of diseased animals). The inspector shall make a yearly report to the Governor, stating the number of apiaries visited, the number of those diseased and treated, and the number of colonies of bees destroyed, and of the expenses incurred in the performance of his duties. Said inspector shall receive four dollars for each day actually and necessarily spent in the performance of his duties, and be reimbursed in any sum not to exceed five hundred dollars per year.—Gleanings in Bee-Culture.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

ROBBER-BEES STINGING THE ROBBED.

I guess all will agree that *sometimes* robbers sting the bees they are trying to plunder. Probably a good many (on talking the matter over and refreshing their memories) will agree that sometimes they do not. Manifestly the off-hand expectation, judging bees by human beings, would be to expect the robbers to be first and fiercest to begin slaughter; but jumped-at conclusions are notoriously apt to be wrong. The point on which more reports of exact and careful observation would be welcome is, Do robbers *usually* make free to kill? In all cases where assailants and assailed are different looking bees, the dead lying around can be inspected. That's something; but the observed deportment of the two parties at different stages of the muss is needed also. Different races and strains of bees are liable to differ somewhat in their robbing manners. Also old, experienced robbers are liable to differ from those robbing a hive for the first time. Our more usual robbing is by bees that personally never robbed a hive before. Bee-life is short. Also the colony has not recently robbed—not often enough to keep up a continuous tradition and set of tactics.

ITALIAN BEES TURNING TO BLACKS.

On page 537, "Minnesota" thinks all the bees in his locality are from one parent lot of all-yellow bees. Dr. Miller doubts very strongly. The puzzle is, they're getting black. It occurs to me that we have had, first and last, rather too many such reports to ignore. I'm getting about ready to admit that Italians subjected to close in-breeding do sometimes let the black element of their blood come to the front. Not much doubt that Italians were in their origin a mixture of some yellow oriental race with blacks—the mixture being unified and modified by many centuries of time.

FEEDING HONEY TO PRODUCE WAX.

Loyalstone's practical work at getting nearly a pound of wax from five pounds of fed honey—especially the continued success for four years—that's getting things out of mere experimental science into the bread and butter regions. There are plants which produce much honey that the bees will accept although the human taste rebels a little at the flavor. Where prime extracted has to go for 5 cents, this stuff ought not to be figured more than 2 cents. Then we see (in case wax is 24 cents) one pound takes 12 cents in honey to produce it, and yields another 12 cents for bee-labor, man labor, and profits. As to Loyalstone's cloth feeder, one would naturally be somewhat suspicious about that, and ask for something better. Page 536.

SHAKING QUEENS OFF COMBS—BEE-LONGEVITY.

When combs are shaken a laying queen drops easier than the bees, but a virgin queen not so easy. These facts

can sometimes be utilized in hunting queens—dowager found with the first bees down, virgin with those remaining when most are off. This is anent the article of Adrian Getaz, page 534.

QUERY.—Is it brood-rearing or outdoor labor that wears out the lives of bees? Whichever way you answer don't be too fanatically sure of it. I am pretty sure Mr. Getaz is getting "into the pictures" when he holds one of these views to such an extent as to pronounce extra longevity for the bee of no use. Actual and mechanical wearing out of their bodies (if that were all) would not occur so regularly at 42 days. Varied circumstances and conditions under which the work was done would vary it greatly. Bees little one-hoss shays, eh? I'll affirm that, had the deacon made a swarm of one-hoss shays, some would have dropped off at 100, some at 110, and some at 55.

ALLEY AGAINST THE WORLD.

"Athanasius against the world" did not come out second best after all, at least we are given to understand so sometimes, but Alley against the bee-keeping world will, I fear. Leastwise when the B.-K. W. says a pint colony in a nucleus hive will presumably rear a poor queen, and Alley says it will always rear a good one—well, we at least scratch our heads. Also, it's somewhat singular that all the queens our Nestor rears should be so good, while all the other fellows have to send out queens worth less than the postage stamp required to "hist 'em." Page 333.

EUROPEAN VS. AMERICAN BEE-CONVENTIONS.

Lots of wisdom in the Dadant article about conventions. Yet, if everything was remodeled in the light of these wise suggestions, American conventions might still be small. Getting a Yankee into a convention is like getting a day-old chicken into an egg-shell—don't fit him, somehow. I think most Europeans are more moderate in their expectations of a convention than we, and so less constantly disappointed. But once let the same persons get Americanized by coming across the Atlantic, and they, too, will drop off like big boys from Sunday-school. Page 533.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

The "Answerer's" Short Absence.

An absence of ten days on account of the National convention at Denver has caused no little delay in some of the answers in this department, a delay which is much regretted; and the assurance may be given that no National convention shall interrupt again for some months to come.

C. C. M.

Perhaps Foul Brood—Other Questions.

1. I have a queenless colony, and there are about 200 cells on each comb sealed, but the brood is putrid and somewhat ropy, and looks brown, and does not give off a bad odor. Do you think it is foul brood? or is such condition common in an apiary?

2. On Aug. 5 a colony of hybrids cast a swarm, and I found the frames of the parent hive filled with brood clear to the wood, and not an ounce of honey in the brood-nest, and very little pollen, but there were two supers on top, filled. The hive contained six frames. The colony is very vicious. Would you breed such stock? The other colonies of the same breed have a tendency to crowd the brood-nest.

3. Do you keep dummies in the hive to contract all summer, and if so, what do you put in place of dummies when the season is over?

4. Do you think it better to hive swarm on eight frames in a place where there is a continual flow from July to September? Would you advise putting the frames that have the most honey in the center of the brood-chamber for winter?

5. The entrance to the chaff-hives is only ½ inch by 12 inches, and I am thinking of boring a 1½-inch hole through the casing and brood-chamber, and put a wooden tube in the hole. Do you think it would improve the hives?

6. The frames in the chaff-hives are the old-fashioned Hoffman frames, and I am thinking of replacing with staple-spaced frames, but that would leave a bee-space of ⅛ inch. How would you arrange it? NEW YORK.

ANSWERS.—1. The condition you mention is by no means common in a healthy colony, and the fear is that foul brood is on hand. Better send a sample to Dr. Wm. R. Howard, of Fort Worth, Tex., with $2.00 to secure an analysis.

2. The viciousness makes it hardly desirable to continue the stock, but crowding the brood-nest is not objectionable, and is just what might be expected with a good queen and only six brood-frames.

3. No, dummies are not now used for contracting.

4. Yes, if full sheets of foundation are used. Some think it wise to give only half the number of frames at first, using shallow starters, and after ten days or more, when these frames are filled, giving frames filled with foundation to fill out the remaining vacant space.

5. Hard to tell. Better try only part, and see how they compare with the others.

6. I'm not sure I fully understand the case, but if bars are 1⅛ inches wide there need be only ¼-inch space. If I don't get the right idea, please write again.

Do Queens Carry Foul Brood?

Is it safe to take a queen from a foul-broody colony and place her with a healthy colony? INDIANA.

ANSWER.—It is claimed that a queen will not carry the disease. I have had no personal experience.

Will Bees Store All for Surplus?

Is there any danger of bees storing all the honey in the supers and not storing enough below for winter use? My bees have the brood-chamber full of brood and pollen, and are storing honey in the supers very rapidly.

PENNSYLVANIA.

ANSWER.—You will find that although the combs may be so full of brood that not one-fourth enough honey is present for winter stores, as the brood advances and hatches out there will be a tendency to restrict the brood and increase the amount of honey toward the periphery of the brood-nest, allowing plenty of stores in the brood-chamber for winter. Still, it sometimes happens that in an 8-frame hive the stores will be so scanty that you must add to them.

Troubles with Queens and Bees.

1. A certain high and mighty editor has suggested that we write to you and get your opinion upon some very peculiar things, to-wit:

We bought two queens about a month ago. The weather being bad here we did not pay much attention to them, except to see that they were accepted. We look at our bees about every week, but this time, from one thing and another, we did not look at them thoroughly until we had had them a month. When we did we found one had filled the hive with drones, and the other had not laid one egg, and when we opened the hive and took out the frame she was on she gaily flew to the fence, and when I tried to catch her she sailed away as light and airy as you please, and we have not seen her since. We gave the drone-layer the "water cure." The only reason for this that I can give is, that the time for the queens to fly must have been when they were in the mails, and the time passing they did not mate at all. I think the queen that did not lay at all is the real conundrum.

We have an immense colony that will not work in the super, but I think we have gotten ahead of her. It was in a Danz. hive, and we took a Jumbo body and nailed their frames—out of their hive full of brood, etc.—to the top of frame of the Jumbo, and put them in, and put sections under them. That just fills a Jumbo body; those that the queen lays in we will leave until late, and when they fill these we are going to raise them up and put a super under

them with a queen-excluder between. Do you know of any better way to get ahead of the pesky things? If you do, you will greatly oblige me by telling it. ILLINOIS.

ANSWERS.—1. I don't know for sure the right answer to your conundrum. Are you entirely sure that the queens that behaved in such a naughty manner were the queens you bought? Unless specially stipulated that you were to receive a virgin queen, no queen-dealer should send you a queen that had not already begun to lay, and that laying should come so early in her life that there should be no question about her having mated. You do not explicitly say that you found the queen in the hive that was filled with drone-brood, but I take it for granted that you found her from some things you say, otherwise the question might be raised whether you did not have laying workers. It is not probable that a queen that was all right when mailed should immedately turn into a drone-layer; but such a thing is not entirely impossible. It might happen that a young queen was present and that the queen you introduced was killed, but that would still leave the question a puzzling one. With regard to the queen that did not lay any, *if* there is no doubt that she was the one introduced, the question is still more puzzling. A queen that lays eggs that never hatch is a rare thing, and a queen that never lays at all is still more rare. But such a thing has been known, and yours seems to have been one of the very rare cases. The flying out of the queen when the hive was opened looks a little as if she was a young queen hardly old enough to be laying.

2. I hardly dare say your plan is not a good one, since it is *your* plan, but you might try a plan that is at least easier. The usual plan with a colony that is slow to go into the supers is to put into the super one or more sections partly drawn out. Indeed, it is the practice of many to put a "bait-section," as such sections are called, in the first super put on every hive. More surely still, perhaps, in case of a stubborn colony, is the plan of putting in the middle of the super a section from another colony, bees and all, the bees having already put some honey in the section.

What Ails the Larvae?

I had 2 colonies of bees that had about ¾ to ½ dead, rotten brood in July. I could not see that the rotten larvæ was stringy, nor did it smell badly. The colonies were from two different apiaries. The rotten larvæ dried up and the bees could pull out the most of it, but some they could not get out. Now the larvæ is nearly all sealed over, but it dries up and is not fully matured, and they uncap it and drag it out; some have wings and some have not. I have 2 more—yes, 3 more colonies—affected the same way. What is the trouble with the bees? Is it contagious? and what is the best thing to do with them? About nine-tenths of the larvæ hatches out all right, so the hives keep full of bees in all but one. IOWA.

ANSWER.—It does not seem like foul brood, and I don't know what the trouble is. It might be a good thing to send in a tin box a sample to Dr. Howard, of Fort Worth, Tex., who, for $2.00, will make a microscopical examination and report to you.

Storing Surplus Honey after Aug. 10.

J. A. Watkins asks the question, "Do bees store any honey after Aug. 10, in any of the Eastern States?" Yes, indeed; were he living in Butler Co., Pa., he would find the bees gather more honey after Aug. 15 than all the rest of the season. I have one colony in an 8-frame hive from which to-day (Sept. 1) I took 40 sections of nice honey; it has 32 more almost ready to seal, and is drawing out foundation in 16 more; which I expect it will finish up, making 88 sections in all. This has all been started since Aug. 15, 1902. I have 13 other colonies that on Aug. 15 had no honey in supers at all, and now they have in round numbers 537 sections, on an avenage of 41 sections per colony, all of which will be completed in a few days.

There is no need to feed bees here, as there are hundreds of acres of buckwheat in full bloom, to make the busy bee glad all the month of September. PENNSYLVANIA.

ANSWER.—I am thankful to say that much the same thing can be said here as to the bees gathering since the middle of August, so there will be no need to feed for winter. But the hundreds of acres of buckwheat would not have prevented feeding in June.

Honey-Boards vs. Cloths—Comb Foundation—Merits of Different Kinds of Bees.

1. Are honey-boards better to use than gunny-cloth to within one-half inch of walls of hives? A man with 13 years' experience here says that he has tried each way, and the gunny-cloth is preferable.

2. I received some samples of Dadant's comb foundation, and find that between opposite angles the width of the cells is 8-32 inch, while some natural comb that I have is 9-32 inches. Would not a 9-32 inch-wide-cell foundation be the best?

3. How do bee-authorities stand on the respective merits of different kinds of bees in regard to honey-gathering? CALIFORNIA.

ANSWERS.—1. I don't know. I think I should prefer the board for summer and the cloth for winter.

2. Natural comb varies, and I think the cells of worker foundation will be found a trifle larger than the cells of average natural comb. At one time foundation was tried with cells considerably larger than made at present, but it did not prove satisfactory. It is not likely that you would find any advantage in having foundation with larger cells than those in common use.

3. There are more different opinions than different kinds of bees; but it is probable that the majority of bee-keepers in this country prefer Italians.

Introducing Queens—Moving Bees.

I introduced several queens last month, and looking 5 or 6 days afterward I found them laying, but in 2 or 3 cases there were queen-cells, which I cut out. In looking again 5 days later I found in one colony some queen-cells with the queens almost ready to emerge.

1. What do you think would have happened if I had not cut them out?

2. Is it necessary always to look for and cut out queen-cells after introducing? Last year I introduced a queen to a colony of dark bees, and after seeing that she was laying, I clipped her wing; next spring I found a dark queen with uncut wing there. If I had not cut the wing I should have blamed the breeder for sending me a bad queen.

3. I want to move some colonies a distance of 30 or 40 yards. When do you think is the best time to do it? We do not need to put bees in a cellar here. BRITISH COLUMBIA.

ANSWERS.—1. The bees would likely have destroyed them. It is not an uncommon thing for the bees to start cells when a queen is introduced, destroying them afterwards. If the queen is unsatisfactory, however, a young queen may be allowed to supersede her.

2. No.

3. Move them quietly any time after they have stopped flying; preferably soon after they have taken a flight, and at a time when you think they will not again fly for some weeks.

Quiet Robbing—Honey in the Hive in Spring.

1. My bees swarmed, unexpectedly, last Sunday, and I now find that the old bees are robbing from the hive they left. What would, or could, you advise me to do? I have made the entrance very small, but it is of no use.

2. Honey that is still left by the bees in the spring, shall I leave it, or take it out and extract it? MINNESOTA.

ANSWER.—This is one of those cases of quiet robbing in which it is difficult if not impossible to do anything, because you cannot have the co-operation of the bees. Making the entrance smaller will do no good so long as the bees make no attempt at resistance. Such cases—the bees robbing the mother colony—have seldom been reported, and I do not remember that any one has ever reported a cure. It may be that after a little while the individuality of the colonies will assert itself, when the robbed colony will no longer allow the robbers to enter, and you will have to feed enough for winter stores if sufficient has not been left.

The Premiums offered this week are well worth working for. Look at them.

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To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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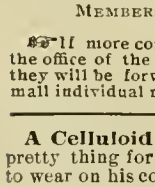

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal

GENERAL ITEMS

Bees Did Well.

I can not get along without the American Bee Journal. I would sooner lose my dinner one day in each week.

I have not seen any report from this locality, and do not know how well other bee-keepers here have done, but my bees have never done as well before, and I have kept a few bees for 20 years. I do all the work except taking them in and out of the cellar, and I claim the income from them.

The honey is almost all fancy white clover this year, and they were still at work in the supers yesterday when I examined a few of them.

I had 23 colonies, spring count, have increased to 42 by natural swarming, and have taken off 2500 pounds of honey up to date, with a few sections still on the hives.

I think the bees will go into winter quarters in good shape, for the hives are well filled now.

We had a great deal of rain here, and had we had less during the honey-flow we would have done even better than we have; but, all things taken together, we are well satisfied.

MRS. R. T. SMITH.

Fond du Lac Co., Wis., Sept. 15.

Common Snowberry.

The specimen flower sent by Edward Kortum, of Blue Earth Co., Minn., is the common snowberry, and belongs to the honeysuckle family. The snowberry is frequently cultivated in the East, but is seldom found west of the Mississippi River. It is probably a good honey-plant, as is the majority of the honeysuckle family. C. L. WALTON.

Wintering Bees in Danz. Hives.

I have 2 colonies in Danzenbaker hives. I winter bees out-of-doors, with 2 inches of planer-shavings to protect from cold. Will these colonies winter as well as in Langstroth hives? I fancy the Danz. hive being so shallow must bring the bees near the opening of the hive, and so bring them nearer the outer cold.

I nearly lost my bees from starvation in May and June. Having no experience I did not know what was the matter. I lost three queens, and managed to requeen the three out of five I bought. Bees are building up now, and I think will be all ready for winter, but I started the spring with five colonies, and have only the same five now. I have had no new swarms so far, and only 70 pounds of honey. I think I may get another 25 or 30 pounds.

I get no profit this year, unless my experience counts as such. I hope I may bring my 5 colonies through the winter, when I do not think I will allow them to starve next spring.

H. BEER.

British Columbia, Canada, Aug. 20.

[It is generally considered that depth of frame is an advantage for wintering, but some have success with shallow frames.—ED.]

Bitterweed Honey.

I am sending you two sections of our honey which is gathered from bitterweed. This honey begins coming in about July 15, and lasts until about Sept. 1. It is in quantity enough for the bees to fill up with it for winter, and everything in the way of good honey could be extracted about July 1, thus securing *all* of the good honey. It is also convenient to get plenty of sections drawn out so they can be used for bait next year. I have one super for each hive filled with this honey, and next spring I shall uncap it and stack up the supers out about 100 yards from the hives, and let the bees clean out the sections; and

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

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Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3½ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 20 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, $1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st Send for circular.

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my adv., as by my new system of queen-rearing, I can fill all orders by return mail, and they come in by the hat full, and the little old man here isn't lying about it, either. I can send you the largest and finest Adel-Golden Carniolan Queens you ever saw. Practically a non-swarming race of bees.

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Golden Italians Have no superior, and few equals. Untested, 75 cents; 6 for $4.00.

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then when the honey-flow begins I will have plenty of drawn-out combs which should be filled much quicker than if the bees had to build the combs. One strange thing about this honey is that the comb and cappings are the same color as the honey, which is not the case with other honey here.

Take this along to Denver, and show it to your friends, if it reaches you in time. I should like to be with you. JOE S. WISE.

Copiah Co., Miss., Aug. 27.

[The honey did not arrive in time to be taken to Denver. It is not as bitter in taste as we expected to find it, but it is really too bitter to eat with any degree of relish. We prefer to be excused, and will take the fine alfalfa or sweet clover honey for our own use. However, many thanks, Mr. Wise, for sending us the sample sections.—EDITOR.]

Partridge Pea.

Enclosed find plant for name. It is in full bloom, and the bees are very thick on it now.

EDWIN BEVINS.

Decatur Co., Iowa, Aug. 6.

[The flower belongs to the pulse family, and is called partridge pea. It flourishes best in a warm climate on sandy soil, and its large, yellow flowers are very conspicuous. It is an excellent honey-plant. In "Bee-Keepers' Guide," page 429, will be found a cut and short description of the partridge pea.—C. L. WALTON.]

Excelsior as Smoker-Fuel.

I am surprised (and pained) to see by Miss Wilson's article, on page 598, that she, and by inference others, have trouble with smokers, as by my method there is no preparation necessary. I rarely use but one match to light it, one filling of a 3-inch Bingham smoker lasts over an hour, and it does not go out if kept upright.

The secret (?) is *excelsior!* Put a small wisp in the bottom of the smoker and drop a well-lighted match on top of it. Let it get to burning thoroughly and put in another larger wisp and blow up *well*. Now fill up and pack down as hard as you can—don't be afraid, so it is thoroughly lighted—and you are fixed (with an occasional pump at the bellows) for an hour at least. When nearly burned out, open up the smoker, poke what is left to the bottom with a stick, blow it up lively, take a fresh wisp from your pocket and fill and start over again with only a minute's delay.

I don't recollect where I "got on" to this, but I claim no originality. I think if Miss Wilson will try it she will soon abandon soaking rags and hunting good "smoke wood."

RALPH D. CLEVELAND.

Dupage Co., Ill., Sept. 18.

A Bear in a Bee-Yard.

A bear was in my bee-yard two weeks ago, and destroyed 2 colonies and damaged 10 more or less, in going through the yard.

The other day I found 6 queenless colonies. I started with 35 colonies, spring count, increased to 90, and got 2000 pounds of extracted honey. JOHN BLUEM.

Wood Co., Wis., Sept. 11.

The Hamilton Co., O., Association.

The bee-keepers of this county met in response to a call by circular, and organized. Upward of 50 persons were present, and quite a number from Kentucky. Several ladies interested in apiculture graced the company with their presence and took a prominent part in the proceedings.

The following officers were elected for the ensuing year: President, Henry Shaffer; Vice-President, Ben Kolcks; Treasurer, C. H. W. Weber; and this Executive Committee: Wm. M. Lehman, Frank Beek, Fred Muth, J. C. Froliger, Chas. Kuck, and E. A. Newell.

Among the objects of the Hamilton County Bee-Keepers' Association is the inspiration of

egislation in Ohio to protect bees from the ravages of foul brood, which has already appeared in our midst. This State is rather tardy in looking after the interests of the bee-keepers. It is estimated that this county alone contains about 500 apiarists whose interests are worthy of some legislative attention.

WM. J. GILLILAND, *Sec.*
Hamilton Co., Ohio.

Mountain Mint.

I send you by this mail one of the finest bee-plants I ever saw. It is a stranger to me, and was discovered two weeks ago while crossing an old pasture, by the loud humming of the bees, as if robbing. I followed up the "bee-line" to a plat about 4 square rods which was just alive with bees, getting honey. I went back there yesterday to see whether the plants were still in bloom, but could see no difference from my previous visit two weeks before.

I have been over the country a great deal, but never saw this plant before. It is a mint, and may be the great horsemint of Texas; as I have never been in Texas I do not know. I shall keep my eye on that patch, and try to save the seed, then I hope to "go" the man that has the catnip and sweet clover "one better." W. P. TURNER.
Peoria Co., Ill., Aug. 26.

[The specimen is a mountain mint, first cousin to the horsemint, and a very valuable honey-plant. The mountian mint is quite common eastward, but has not spread over the middle or western States to any extent.—C. L. WALTON.]

A Fair Fall Flow.

We have had a fall honey-flow here that is pretty fair. I will have 3 or 4 hundred sections from 20 colonies, spring count; but no swarms. D. C. WILSON.
Linn Co., Iowa., Sept. 15.

Beard-Tongue.

I enclose stems and flowers of a perennial plant that grows among the rocks. Can you give the name of the plant? and is it of value for bee-pasture?

The spring and first part of the summer was cold and windy; it was hard on bees. I had 50 colonies, spring count, all doing well on sweet clover just now.

M. L. HELTZEL.
Lincoln Co., Wash., Aug. 22.

[The specimen is called beard-tongue, Pentstemon, grandiflorus, and belongs to the figwort family. The figworts are, as a rule, honey-plants, and while I cannot speak positively of this one it probably follows the family trait and well repays the bees for an occasional visit.—C. L. WALTON.]

Rearing and Introducing Queens.

I have been reading with interest the articles written by Dr. Gallup and also those in reply by Mr. Alley. Now Mr. Miles, a member of the jury, as he puts it, wants to hear from the other members, and I will try to add my mite to the list.

I have always supposed that natural queen-cells were as good as any, and still think that to be the case. I know, too, that good queens can be reared with the cell-cup plan, or by Mr. Alley's method, because I have proved it; and also that poor queens are reared on the best plans used, and from the best breeders you can buy. I think the best plan to follow is to save nothing but the very largest and best cells, no matter what method you use. The best method to use is the one you have proved to be the most successful, and gives the best result, no matter who thinks differently.

I will give my way of introducing queens when received by mail: Remove the queen from the cage and put her in a cage that has not been used or been through the mail, so there will be no scent from it as there would be in the cage she came in, and leave no workers with her. Then go to the hive you wish to put her in, remove the queen they have, if any, and place the queen-cage with the queen you wish to introduce, with wire-cloth down, on top of the frames, first removing the slip of card off the end of the cage containing the candy. Some will object to putting the new queen in at the same time you take the old one out, but I do it that way and it saves disturbing the bees more than once, and I have lost only one queen that was introduced in that way. I suppose Mr. Alley will object to this; but never mind, I can do it that way if he can't.

I notice a writer in the American Bee Journal says 9 out of 10 queens he has bought were worthless. Now that has not been true in my case, and I have bought quite a number, and have never had one I called worthless; but some were better than others, and that is the case with those you rear. I am not writing this without knowing something about it. I have had queens from 5 different States, and imported some from Italy twice, and I have no cause to complain. I received a couple of premium queens from Editor York a short time ago that are beauties, and are doing well.

CHAS. W. CILLEY.
Merrimack Co., N. H., Sept. 4.

QUEENS!

This is your last chance for this season to get Queens from Quirin's Famous Red Clover stock, so hurry in your orders. We have files of testimonials like the following:

Mr. J. Roorda, of De Motte, Ind., bought 4 dozen in the spring, and says the workers are hustlers; while E. L. Messenger, of New Haven, Conn., says the queen bought last season produced bees which beat anything in that part of the country.

Price of Queens for balance of season:

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Selected	$ .75	$4.00	$ 7.00
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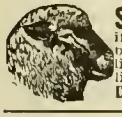

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Age of Queens.

I indorse what G. M. Doolittle says about replacing queens every two years. If a queen is bad, replace her any time, even if less than a year old, but don't replace an old queen simply *because* she is old. I have a queen 5 years old that is to-day doing just about as good work as any other queen I have. A sufficient reason against replacing all 2-year-old queens, if there was no other, is that you can hardly decide the character of a queen until she is 2 years old; and if she has a good record when 2 years old, every year of good record after that increases her value as a queen to breed from.—Stray Straw in Gleanings in Bee-Culture.

Getaz's Plan of Dividing.

After trying all the processes advised, I simply divide each colony in two, putting two-thirds or three-fourths of the brood in the new one, and leaving the rest on the old stand. Both hives are completed with empty combs or foundation. Three days later I look for the queen. Only the new colonies need be examined, and it takes but little time, since they are not strong in bees. Queens are then introduced where needed, and the cells cut out, if there are any.

Laying queens can be introduced anywhere, but the virgins, ready to mate, should be introduced only to the new colonies; otherwise there might be trouble. If necessary, take the old queen out of the new colony, and put her back in the old one, and give the virgin to the new colony.—ADRIAN GETAZ, in the Bee-Keepers' Review.

Stimulative Feeding.

This has a strong advocate in the editor of the Rocky Mountain Bee Journal, and what seem to be good arguments are given in favor of it; but it seems that all Coloradoans are not of the same mind. F. L. Thompson says in the Progressive Bee-Keeper:

Stimulative feeding for spring is one practice whose value is unproved, hence it can not be included in the list of essentials. It has been said lately it is desirable in Colorado; but convincing proof has not been given. If feeding stimulates that does not prove that the stimulation is profitable. From the view-

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No. 4.—For $1.00 we will send Prof. Cook's book by express or freight with other goods; or, if called for at our office, the price is $1.00. But the postpaid price of the book alone is $1.20.

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point of this locality, there are two questions involved·

1. Which is better, a strong colony of old bees, whose vitality is unimpaired by previous brood-rearing, or a weak colony of young bees, 37 days before the flow, that being the time required to rear honey-gatherers from the egg?

2. When natural pollen (the best kind of a stimulant) begins, as it does here, more than 37 days before the flow, and continues without a break, is it any additional stimulation to feed thin honey?

In answer to the first question, one experience in cellar-wintering here shows that a comparatively late start in brood-rearing with strong colonies of vigorous old bees, which start was still, however, more than 37 days before the flow, produced results just as good as the usual handful of brood kept up from January on, resulting in weak colonies by the first of May. To be sure, natural pollen begins rather late here, not till the last week of April, and bees will take artificial pollen eagerly before that time, and it certainly does stimulate them; but it is very doubtful whether that stimulation is any real good.

As to the second question, any one familiar with the normal aspect of the brood-chambers here in the middle of May—broad sheets of brood with comparatively few bees—and who concludes that the bees can be stimulated more than they are, must have some considerations in mind which are not apparent to the understanding of this writer. If there is one thing in which theoretical views are dominant, it is in this matter of stimulation. Where are the proofs?

Size of Cells.

Doolittle says queen-cells should be rather more than five-sixteenths in diameter. Call it five and a third sixteenths—that's just a third of an inch. Then we have: worker-cells five to the inch, drone-cells four to the inch, and queen-cells three to the inch.—Stray Straw in Gleanings in Bee-Culture.

An Association Seal.

Some years ago the Ontario County (N. Y.) Bee-Keepers' Association decided to place their good, white honey under the seal of the Association. It was thought that a reputation for Ontario County honey could thus be built up. I do not know that it occurred to the instigators of the scheme at that time, that this seal might act as a guarantee of the purity of the genuineness of the article. In these times of mistrust against even the genuine product of the bee, it would seem all the more desirable that we should enact a scheme by which we could strengthen or regain the confidence of consumers of an article that we know is not, and never can be, successfully imitated. I do believe that, if a goodly number of the bee-keepers' societies all over our land would act in unison, adopt our system of sealing their honey, it would go a long way towards re-establishing the lost confidence.

Our rule is, not to send out any inferior honey under the seal of the Association. Fancy and No. 1 white only are admitted. This rule is all right if the object is to create a reputation for a No. 1 article; but it is a question whether this is the best course to follow, when we consider that all honey is to be guarded against any possibility of suspicion. If I send out a part of my honey without a seal, would not the purchaser naturally think this to be an adulterated article? I confess I do not know what is the wisest thing for us to do.

The seal we use consists of a strip of glazed turkey-red paper 4x14 inches, having the gold seal attached at the right of the reading matter, with the official seal of the Association impressed thereon. The reading is as follows:

"Ontario County, N. Y., Bee-Keepers' Association Honey Stamp. This case of honey has been inspected by the honey-inspector of the Ontario County, N. Y., Bee-Keepers' Association, and the honey within, if seal is attached and these stamps remain unbroken, is guaranteed to be grade No. 1 white."

From the reading it appears that the stamp

or seal is pasted around the case of honey in such a manner that the honey can not be removed therefrom without breaking the seal.

The honey-inspector's business is to go to the different honey-producers, on solicitation, and inspect the honey. If he finds it all right and up to the standard, he attaches a seal to each case. For this service he receives from the owner of the honey 8 cents per case, and 15 cents from outsiders. He also receives mileage.—F. GREINER, in the American Bee-Keeper.

CONVENTION NOTICES.

Utah.—The Utah Bee-Keepers' Association will hold the annual convention in the City and County Building, Salt Lake City, Utah, Oct. 6, 1902, at 10 a.m. Business of interest to all bee-keepers will be presented. All are invited.

J. B. FAGG, Sec.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held at the Court House in Freeport, Ill., on Tuesday and Wednesday, Oct. 21 and 22, 1902. All interested in bees are invited to attend.

Cherry Valley, Ill. B. KENNEDY, Sec.

New Jersey.—The first annual meeting of the New Jersey Bee-Keepers' Association will be held at 10 a.m., Thursday, Oct. 2, in the Club House on the Inter-State Fair Grounds, Trenton, N. J. We extend a most cordial invitation to all bee-keepers, and others interested in bee-culture, to be present.

GEORGE N. WANSER, Sec.
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to Boston and return, via Nickel Plate Road, Oct. 7th to 11th, account meeting of Brotherhood of St. Andrews. By depositing tickets at Boston and paying fee of 50 cents, extended return limit of Nov. 12th may be obtained. Through vestibuled sleeping-cars and first-class service in every respect. Cheap rates to all New England points Write John Y. Calahan, 113 Adams St. Chicago, for particulars. 49—38A3t

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Because I have to move on the 1st of November, and have to double up my Nuclei by Nov. 1, Untested Queens, 50 cents each. I have 100 Tested Queens (think of it—Tested!) for 75 cents each. Tested Queen in a 2-frame Nucleus for $2.00.

I also have 200 Chaff Division-Boards made up that cost 15 cents in the flat. I will take 14 cents each.

Also 200 Supers for 10-frame hives, filled with sections and starters—are worth 38 cents—will take 20 cents each. I am offering these on account of having more than a car will hold, and I haven't enough to fill two cars. Whoever gets them gets a bargain.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 19.—Comb honey is meeting with good demand and the arrivals are easily disposed of at 15@16c per pound for that which grades No. 1 to fancy. Very little of the lower grades are offered, but bring within 2 to 3 cents of No. 1. Amber grades of comb are also scarce, with no buckwheat offerings. Extracted is steady, white bringing 6½@7c; amber, 6@7c; Southern and odd lots of dark, 5@6c. Beeswax, 30c. R. A. BURNETT & CO.

KANSAS CITY, Sept. 13.—The demand still continues good for comb honey, but receipts are very light and meet with ready sales at these quotations: Fancy white comb, 15c; No. 1 white, 14c; No. 2 white and amber, 13c; dark, 12c. Extracted, white, 6@6½c; amber, 5@5½c. Beeswax, 22@25c. C. C. CLEMONS & CO.

CINCINNATI, Aug. 30.—The demand for comb honey at present is very good; all shipments are sold quick at 15@16c for No. 1 and fancy. We advise shipping while demand is good and before the western carloads are here. In three weeks from now carloads will arrive, then demand is satisfied, sales harder to make, and prices demoralized. Extracted honey is selling as fast as it arrives, at the following prices: Amber and Southern in barrels, at 5½@6½c, according to the quality. White clover, 7½@8c. Beeswax is scarce at 30c.

THE FRED W. MUTH CO.

ALBANY, N. Y., Aug. 22.—The demand for honey is improving with the unusual cool weather, the summer resorters returning home hungry. We quote: Extra white comb, 15@16c; medium, 14@15c. No other grades coming yet.

We want to caution shippers against shipping by express, as it arrives almost invariably broken. Express companies are stamping the cases "Received at owner's risk," which seems to cause their employes to "play ball" with it. Freight handlers are slower, more careful, and less broken, and much cheaper. We advise sending by freight only. H. R. WRIGHT.

NEW YORK, Aug. 11.—New crop comb honey from New York and Pennsylvania is beginning to arrive in limited quantities. There is a good demand for fancy white at 14c, and No. 1 at 13c, and exceptionally fine lots will possibly bring a little more. Lower grades quiet at from 10@12c. As to extracted honey, fancy grades are in good demand at from 6@6½c for white, and 5@5½c for light amber. Southern in barrels and half-barrels quiet at from 47 @60c per gallon, according to quality. Beeswax dull at from 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Aug. 29.—New comb honey is not coming in so plentiful, so far. Whatever has come in, and is fancy water-white, has brought a good price, and sold to stores at from 15@16c. Honey kept over from last year, fancy sells for 14c. The market for extracted is more lively and brings: Amber, from 5@5½c; alfalfa water-white, from 6@6½c; white clover, from 7@7½c. Beeswax, 28c. C. H. W. WEBER.

SAN FRANCISCO, Aug. 20—White comb, 13@14c; amber, 10@12c; dark, 8@9c. Extracted, white, 5¼@5½; light amber, 5@5¼; amber, 4¼@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

Not much offering or arriving of any sort. While the market is firm throughout, current values are being better sustained on comb than on extracted, for the reason that the latter has to depend to some extent on outside demand. All the comb honey offering will be required locally. The shipment of comb honey has never proven satisfactory, and the production is in consequence restricted to small compass.

Wanted—Extracted HONEY Mail sample, and state style of package and price delivered in Chicago.

John F. Campbell, 53 River St., Chicago, Ill.
34Atf Mention the American Bee Journal.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.
21Atf Mention the American Bee Journal.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.

THE FRED W. MUTH CO.
32Atf Front and Walnut, CINCINNATI, OHIO.

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Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF
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a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)
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These are clear flint glass jars holding just one pound, and the shape of a keystone. They are 7⅛ inches high, and very pretty when filled with honey. The corks can be sunk a trifle below the top, and then fill in with beeswax, sealingwax or paraffin. We can furnish them in single gross lots, with corks, f.o.b. Chicago, at $3.50; two gross, $3.25 per gross; or five or more gross, at $3.00 a gross. These are the cheapest glass one-pound jars we know anything about. We have only about 30 gross of them left. So speak quick if you want them. Address,

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$300,000,000.00 A YEAR and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.

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The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....

DADANT & SON,
Hamilton, Hancock Co., Ill.

Honey Wanted.

We can use the following:

Please submit samples of Extracted and quote prices (delivered, if possible.)

State from what source gathered and how soon you can ship and quantity of each grade offered:

1st.—Alfalfa Comb in car lots.

2nd —Alfalfa Extracted in car lots.

3rd.—Car Buckwheat Extracted or other dark or amber honey.

4th.—Car Basswood Extracted.

5th.—White or Sweet Clover Comb and Extracted in any quantity.

6th.—Comb Honey in Danz. sections. For the latter we will pay a fancy price, as we have a market for the same which we have not been able to supply.

THE A. I. ROOT CO,
MEDINA, OHIO.

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Report of the Denver Convention of the National Bee-Keepers' Association.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., OCT. 2, 1902.

FORTY-SECOND YEAR
No. 40.

WEEKLY

JAMES U. HARRIS,
President of the Colorado Bee-Keepers' Association.

A STANDARD-BRED
QUEEN-BEE FREE

To Our Regular Paid-in-Advance Subscribers.

We have arranged with several of the best queen-breeders to supply us with **The Very Best Untested Italian Queens** that they can possibly rear—well worth $1.00 each. We want every one of our present regular subscribers to have at least one of these Queens. And we propose to make it easy for you to get one or more of them.

In the first place, you must be a regular subscriber to the American Bee Journal, and your own subscription **must be paid in advance.** If it is not already paid up, you can send in the necessary amount to make it so when you order one of these fine Queens.

A Queen Free for Sending One New Subscriber

Send us $1.00 and the name and address of one NEW reader for the American Bee Journal, and we will mail you one of the Queens free as a premium.

Now, go out among your bee-keeping neighbors and friends and invite them to subscribe for the old American Bee Journal. If you want some to show as samples, we will mail you, for the asking, as many copies of the American Bee Journal as you can use.

Should there be no other bee-keepers near you, and you desire one of these fine Queens any way, send us $1.50 and we will credit your subscription for one year and also mail you a Queen. Of course, it is understood that the amount sent will pay your subscription at least one year in advance of the present time. So, if your subscription is in arrears, be sure to send enough more than the $1.50 to pay all that is past due.

As the supply of these splendid Queens is limited, we prefer to use all of them as premiums for getting new subscribers. But if any one wishes to purchase them aside from the Bee Journal subscription, the prices are as follows: One Queen, 75c.; 3 Queens, $2.10; 6 Queens for $4.00.

We expect to be able to fill orders by return mail, or almost as promptly as that, so there will be no great delay at any rate.

Now for the new subscribers that you will send us—and then the Queens that we will send you! Address,

GEORGE W. YORK & CO.,
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If too late for this season, we can book your orders for Queens to be mailed in May, 1903.

If too late for this season, we can book your orders for Queens to be mailed in May, 1903.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., OCT. 2, 1902. No. 40.

Editorial Comments.

The Producer's Name on Comb Honey.—An experience that we had recently suggests the wisdom of referring again to this subject, which was quite thoroughly discussed in the Chicago-Northwestern convention last December.

We received a nice lot of white comb honey a few weeks ago. It came in excellent condition, because the producer who shipped it followed our instructions as to packing. But when we opened it, we found that not only on every case, but on every section as well, he had rubber-stamped his name and address. Of course we had to spend the time necessary to scrape off all the marks. Had we wanted the producer's name and address on the honey we would have requested him to put it on.

It is not a safe rule to put your name and address on comb honey unless you are retailing it yourself. Then it would be all right. Or, if the dealer buying your honey wanted it on.

We have worked up a demand for "York's Honey," and not Smith's, or Miller's, or Nelson's honey.

It would simply be foolish for us to create a demand for Nelson's honey one year, and then the next year he would likely have no crop. Where would we be then? Again, Nelson couldn't produce the tenth part of what we would need to supply our trade. Then, where would we be again?

The best way when wholesaling honey is to omit the name and address from every case and every section.

Packing Comb Honey for Shipping.—Now is the time to repeat the directions for packing comb honey for safe shipment. There are always a number of new readers who need to learn how to do it properly, and then a good many not so new need to be reminded occasionally lest they become careless.

We prefer to pack say about a dozen 12-pound cases, or eight 24-pound cases, in a large crate, first putting about four inches of straw in it. This will act as a cushion, and prevent breaking down of the combs from jarring or jolting.

The glass fronts of the cases should show through the crate so that freight-handlers can easily see what it is, and handle accordingly.

Then, there should be two long strips nailed near the top of the sides of the crate (one on each side), and extending out six or eight inches, forming handles by which to carry it.

Another good thing is to tack on top a large card having on it in plain letters: "COMB HONEY. HANDLE WITH CARE."

When so prepared, comb honey should go almost anywhere by freight in good condition.

Shaken Swarms, or brushed swarms, are much talked about nowadays. It is really little more than anticipating the action of the bees by making them swarm a little in advance, and at the same time making a more thorough job of it by leaving with the swarm a larger proportion of the bees. A caution as to one point may not be out of place. Some say to brush off all the bees, setting the beeless combs on a stand by themselves, and trust to the young bees hatching out to take care of the brood. While this may work all right when days and nights are continuously warm, with a continuous flow of honey, it would most surely result in disaster in some cases. A chilly night with no bees on the combs would be sure death for thousands of larvæ, and a let-up in the honey-flow would be the signal for an attack from robbers. In any case, there would be no bees present at first to feed the larvæ, and it is likely a good many of the older unsealed larvæ would starve before the hatching bees would be sufficiently mature to feed them.

Shall Extracted Honey Be Strained or Skimmed?—A discussion of the question in the Ontario convention showed that while some preferred straining and some skimming, the weight of sentiment seemed to be in favor of both. After the most careful straining there will still be a lack of clearness caused by small particles of comb and pollen and bubbles of air. After standing a week these can be skimmed from the surface. Objection was made that allowing the honey to stand for a week would result in a loss of aroma, but it was thought the gain would be greater than the loss.

Denver Convention Notes.—With us, the Denver convention began about two weeks before we got aboard the train at the Chicago & North-Western station at 6:30 p.m., Monday evening, Sept. 1, and ended several days after arriving at our office again on Sept. 12. It was necessary to put in a good deal of rush work in order to get the business and office affairs in shape to be left for ten days. This was no easy matter, as it was necessary to prepare copy for over two numbers of the Bee Journal in advance, and also explain many matters so that the clerks could keep things going during our absence.

Well, by careful planning and hard work, when the train was ready to start, we had completed all arrangements, and with Mrs. York got aboard for Denver. There were also in the same Pullman coach, Dr. C. C. Miller and Miss Emma Wilson; Editor E. R. Root and Huber Root; C. H. W. Weber and Mr. Klocks; W. L. Coggshall; and Mr. and Mrs. Geo. Angus, the last two being from Canada: Mr. Angus having been employed to report the convention for the American Bee Journal.

We all started off feeling well, and in good time. But the first four named of our party were destined to be separated from the rest of the company. At Omaha, the next morning, we four had to get round-trip tickets from there to Denver. We expected to find the tickets all ready for us

at the railroad office, having written ahead to the agent. But through some misunderstanding, the tickets were not there, and, as it took so long to make them out, and there being other travelers as well who also wanted tickets, our train simply pulled out of the station, and left us in Omaha! Think of it! Our baggage was all in the car on the way to Denver, and we four strangers "left" in a strange town until 4:25 p.m., when the next Denver train would leave. There we all were—Dr. Miller, Miss Wilson, and "Ye Editor" and "frau."

We walked around the town until nearly noon, when we had breakfast and dinner all in one. It was a good, big one, we may assure you. In the afternoon we went out to Hanscom Park, which is a beautiful spot indeed.

When the 4:25 train came rolling in, you may be sure we all were waiting for it. And we weren't bothered with any baggage, either—all the extra baggage we had was two combs that the "girls" bought in Omaha! But we didn't worry any about our baggage that was on its way to Denver ahead of us, for we knew that those two Root "boys" would care for it all right. And they did. When we reached Denver, which was about noon of Sept. 3, we found they had taken it all up to the hotel, where it was awaiting its owners. Easy way to travel, wasn't it? Nothing like having your baggage looked after well, and lugged around to just where it is wanted!

Of course, we all were twitted quite a little during the convention over being left in Omaha, but we simply replied that we preferred to travel leisurely and see the country as we went along. And we did. Besides, as our long journey of nearly 1100 miles was thus broken in two near the middle, when we did arrive in Denver we all felt rested and ready for the convention.

Next week ve will go on with these notes. It may take almost as long to write them out as it did for us to get to Denver. But we got there, and had a good time, too. Dr. Miller said it was the best and greatest trip of his life. Of course, as he is only a little over 70 years old, he "don't know" much more about trips than he does about bees!

Contributed Articles.

American and British Styles of Frames.

BY F. W. L. SLADEN.

Though American bee-keepers may not have much to learn from British methods, which are often more or less the result of the peculiar climate of the British Island than anything else, it will at least be of interest to study points about bee-culture in comparison with one another, and the two plans of which involve differences of principle. In this connection there is perhaps no important article used in bee-keeping in the two countries which differs so much in principle as the brood-frame. As regards shape and size of frame the British seem to agree with their American brethren in preferring a somewhat shallow frame, one that is considerably longer than it is deep. The same variety of opinion is expressed in England as in America on this much-discussed question, but in a decidedly less-pronounced manner, most bee-keepers being satisfied that the size and shape decided upon and adopted by the British Bee-Keepers' Association is the best. This is a small frame, 14 inches long and 8½ inches deep, and there has always been a party of bee-keepers who would like to make it deeper, although in the light of recent tendency in America it would seem that if it can be improved on it would be by lengthening it rather than deepening it.

A very remarkable thing about the British Standard frame is the great length of the top-bar in comparision to that of the frame itself. The former is 17 inches long. The top-bar therefore projects 1½ inches at either end, while the latter is only 14 inches long. Shorter top-bars have been tried but they have been abandoned by almost universal consent in favor of the long ones. The only way such a long top-bar can be accommodated in the hive is by having the walls of the brood-chamber, on which the ends of the

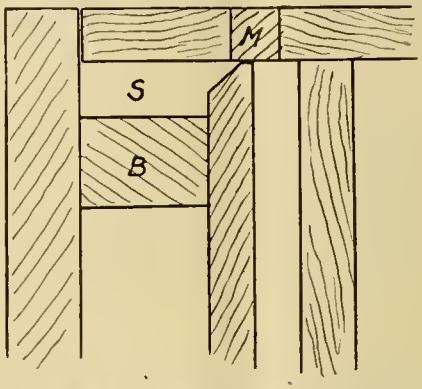

Fig. 1.—Vertical section through the top of the brood-chamber wall in the British hive, showing part of the frame fitted with metal end resting upon it.

top-bars rest, of double thickness, with a space between them, closed by means of blocks. (See Fig. 1). The chief reason why the long top-bars are preferred in England is, apparently, ease of manipulation, and certainly this is a great advantage.

It will be seen on reference to the figure that the upper surface of the top-bar is flush or level with the top edge of the outer walls of the brood-chamber. There is no bee-space above the frames as is the case in most American hives. (I do not say that this is an advantage in itself, but it brings other advantages.) The frames are spaced the correct distance from one another by means of a folded tin metal-end (M) which slips on to the top-bar from the end. It is difficult to convey a clear idea of the English bee-keepers' metal-end in a few words, but it is sufficient for the present purpose to say that it projects about ¼ inch on either side of the top-bar, and touches the metal-end on the next bar over the whole surface of "M" shown in the figure. These metal-ends in fact, being in contact with one another, form an impassable barrier to the bees, so that they are unable to enter the space "S," and thus they cannot mess with propolis the ends of the top-bars, which are in this space. This is an advantage, for the top-bar can be made to fit close between the outside walls of the brood-chamber without fear of propolization, thus end-spacing is secured without driving staples into the end-bars.

But the greatest advantage that results from this large bee-excluded space is ease of manipulation of the frames.

On referring to the figure it will be seen that the block "B," is fixed a little distance below the end of the top-bar;

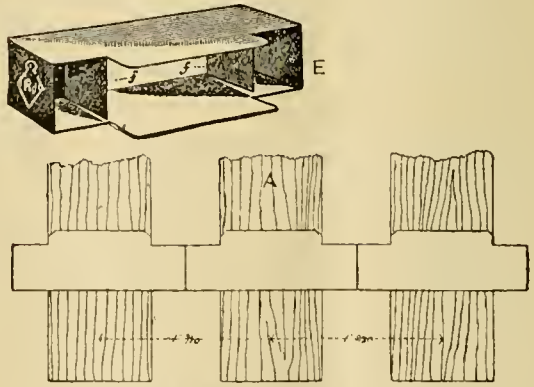

Fig. 2.—The "W. B. Carr" Metal Frame-End.

this leaves a thumb-and-finger space (S) which is most useful, as affording the finger such leverage that it is never necessary to use a tool for separating or lifting the frames. The regular thick top-bar Langstroth frame is, I believe, supposed to be handled somewhere in the top-bar between the uprights; but those operators that I have seen at work

with them generally handle them at or about the uprights. In whatever way they are handled (and especially if it be the latter way), a certain amount of propolis or bee-glue is bound to get on the fingers in time, and this is a distinct annoyance. With the British frames there are neither bees nor propolis on the part where the frames are to be handled, and if two hands are used this part is the very best part for readily getting a good grip of the frame, especially with the room that is given for it. I have handled both the regular up-to-date Langstroth, and the British Standard frames, in my apiary, and I must say I can work more quickly and easily with the latter.

The projecting ends of the top-bars in the British Standard frame are also very handy if one wishes to carry one or two frames a short distance. Two of them can be carried by the projecting lugs top to top between the thumb and fore-finger of one hand, and the smoker being carried in the other hand. It is astonishing how quickly work can be done. Of course, I am more used to handling British frames than American frames, and it may be that if I were as accustomed to handling the latter as I am the former I might not find them so inconvenient.

There seems to be a movement on foot in favor of double-walled hives in America. In such hives the opportunity might be taken to give a longer top-bar a trial. It is difficult to see how the top-bar can be lengthened in the regular dovetailed hive now in use without bringing on serious troubles. Even in such a hive there would still be the drawback—perhaps of little real moment—of the possibility of propolis and bees getting into the part where the frame is to be handled, and the only way to get over this would be to use quilts, and no bee-space, over the frames, as the British do. This might be all right for some queen-breeders, but it would not do for honey-producers and the bulk of bee-keepers. England.

Wintering Bees—Some Experiences.

Read at the last Minnesota Bee-Keepers' Convention

BY J. B. DEXTER.

About 50 years ago, while living in Picataquis Co., Maine, I had my first attack of "bee-fever." With lots of pains and some danger I obtained 20 colonies of bees. I had them in nice, little box-hives on a raised platform. I thought at that time that they were very beautiful and interesting. They were large, with bright black and yellow stripes around the bodies.

Well, they worked and multiplied until fall, but then they were attacked with not spring dwindling but "fall" dwindling, and I did not winter one. They were bumble-bees, and I was 9 years old.

The next fall a lady gave me a colony of honey-bees, but by the following spring they were all dead. Since that time I have kept bees a good many years, and my thoughts have often been turned to the welfare of my bees in winter. I will now mention a few of the many ways I have known bees to winter.

While I lived in Maine, as far as I knew, bees were always wintered on the summer stands. I have known the snow to drift six feet deep over the hives, and in the spring, when a crust formed on top, we would count the holes that the heat from the hives melted through the snow. I never knew a colony to die and leave honey in the hives those years.

From 1870 to 1882 I kept bees in Floyd Co., Iowa. My bees did well in the summer, but I lost more or less each winter, owing, as I thought, to a very damp cellar and to the large amount of honey-dew in the fall. One fall, when I considered them in bad shape, I let one-third of the bees stay on the summer stands, and another third I put into the cellar. For the other third I opened a long, deep trench in a large bin of oats and put the colonies in there and covered them deep with the oats. When spring came I found all the bees in the cellar dead, and also all on the summer stands. I supposed that all would be dead in the oats, and so did not open them until the first of May. Then, to my surprise, I found the hives full to overflowing with bees, and all the frames that were emptied of honey were full of brood. I never had bees do as well as those bees did that summer, and I noticed that the oats was cut up under the hives, as though mice had nested there.

One lady wintered one colony with the hive inclosed in a tight box under the kitchen table, and another wintered a colony behind the doors of a room used as a sleeping-room.

I know a man who keeps a small apiary in his chamber, and finds that not more bees die from 15 colonies than I could hold in my hands.

For the last ten years I have lived in Todd Co., Minn. My bees have wintered (1898 excepted) without loss, in a cellar kept at a temperature of about 33 degrees, Fahr. Mr. M. Osborn, of Wadena County, has wintered bees directly under his stationary engine, which was running most of the winter.

To sum it all up, bees with plenty of stores of light, sealed honey, will come through a long winter under circumstances that would prove fatal to bees with dark, poor honey.

The Denver Convention.

Report of the Proceedings of the Thirty-third Annual Convention of the National Bee-Keepers' Association, held in Denver, Colo., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

The first session began Wednesday evening, at 8:30 o'clock, with J. U. Harris, president of the Colorado State Bee-Keepers' Association, in the chair, and, after the invocation by the Rev. R. H. Rhodes, and the rendering of a musical selection by the Æolian Quartet of the College of Music, Denver, Gov. James B. Orman was introduced to the convention in the following words:

Mr. Harris—Ladies and Gentlemen: It gives me great pleasure this evening to have one speak to the National convention the words of welcome who has done more as a Governor of this State in the interests of bee-keepers than any Governor it has ever had since its inauguration as a State. I have pleasure in introducing to you our chief executive, the Hon. J. B. Orman.

Address of Welcome by Gov. Orman.

Mr. President, and delegates to the National and State Bee-Keepers' Convention:

On behalf of all the people of the great State of Colorado, I wish to extend to you a most hearty welcome. I consider the bee-industry one of the greatest and noblest in the United States to-day. In traveling over the State of Colorado, and other States which I have been in during the past 10 or 15 years, and, more particularly, the past 4 or 5 years, I have noticed bee-culture on nearly all of the farms and ranches. Take it north of Denver, up and in and about Boulder, Greeley, and along the Platte River, you can hardly find a ranch or a farm but has more or less bees. Take it along the Arkansas River, in and about Rocky Ford, and all the way from Pueblo to the State line, and almost every farm or ranch has its bee-hives. This is something that is very noticeable in traveling over the State.

Take it on the western slope, at Grand Junction and Montrose, and a number of other places along the Grand River, and along the Gunnison and other rivers and streams where there are a number of ranches, and you will find bees on almost every ranch and farm. Gentlemen, as I have already stated, the industry is one of the largest that we have at the present time, and it is becoming larger yearly: it is something that is becoming very noticeable, much more so than it was some years ago; and these conventions and gatherings tend to help along and increase the industry. The people of this State are taking more or less interest yearly; their meetings here are advertised well all over the State, and not only in this State, but all over the United States. The newspapers are advertising it, the people are reading about it; they know it is

something for all to become interested in and know about.

I hope while you are in the city of Denver, if there is anything that I can possibly do for you, you will not hesitate to call on me at my office, and I shall be glad to extend any courtesies or do anything for you I may be able to. I thank you. (Applause.)

Mr. Harris—I again have the extreme pleasure of introducing to you Mr. Malone, president of the Denver Chamber of Commerce, one who is always on the alert to do everything for every one who is interested in the State of Colorado, its people or its interests. President Malone.

Address of Mr. Malone.

Mr. President, Ladies and Gentlemen:

It is a pleasure to me to be with you to-night, although rather suddenly called upon. I, as president of the Chamber of Commerce, the largest and oldest commercial body in the State, extend to you who come from other States, a hearty welcome to our State. To you who come to Denver from our State, let me also extend a hearty welcome, and at our Chamber of Commerce—were it not that our home has been burned—we would be glad to receive you and extend to you any courtesy or favor that we might be able to grant, or that you might be able to ask.

On Saturday we are going to take the Letter Carriers' Convention to the Globe Smelter; a train has been chartered by the Chamber of Commerce, and I see no reason why it should not be a pleasure to you, as it certainly would be to us, to have you join us on that occasion at 1:30 p.m., when we leave the Union Depot.

In regard to bees, I must confess I am ignorant upon the subject. I have had brought to my mind to-night, by the song that was sung about sitting upon the bee, the only incident where I have any remembrance of having had experience with bees. In my childhood days I was venturesome, and they told me that honey was good; that there was a lot of it under the sidewalk that the bumble-bees had placed there. I went after it, and I remember the business-end of the bee; I had both eyes blackened, and everybody believed I had been in a fight, and, in fact, I had been, and I got the worst of it. From that time I have never robbed a bee-hive, but one has suffered, as my friend Krueger, here, knows.

At the Letter Carriers' Convention the other night I had occasion to say that it was our duty, as well as pleasure, to gather information throughout this State, and to extend that information not only to our own citizens, but throughout the United States and Europe; and in England at one time our Chamber of Commerce had an office in London, and our literature was distributed there. At that time the letter carriers were discussing the question as to whether Uncle Sam would raise their wages from $1000 (which is the salary he pays) to $1200. I told them it made me think of the story of the preacher who had been for many years in a small country town. He came one Sunday night and said to his parishoners: "It is with regret and sorrow that I must to-night make an announcement to you," and tears began to flow as his voice trembled. He said, "I have received a call to a neighboring town, and I must leave."

The old deacon in the rear arose and said:

"Parson, how much are they going to pay you over in the new town?"

"$1200."

"And we pay you $1000?"

"Yes."

"Parson, that's not a call; that's a raise!" (Laughter.)

I then said to the letter carriers, if you are struggling with Uncle Sam—the most liberal government upon the face of the earth—to get a raise, and you don't get satisfaction in your Eastern and Western districts, come to Colorado and join our agricultural industry, our manufacturing industry, our mining and our grazing industry. I left out the bees, and I will tell you why. I then saw by statistics that I had, that a man had put in six acres of potatoes which had earned him a net profit of $900, and from which, at a better time, he could raise from $1000 to $1200 worth. Again, the Hon. Governor sent to the Chamber of Commerce statistics showing farmers in his district were earning year by year from $3000 to $9000 a year on their farms from 40 to 160 acres of land. Since I came into this room to-night I have learned that there is in your midst one who has a great number of bee-hives, and who has netted from one colony in a year $22.50. I know that that party worked at the business.

I see no reason why the bee-industry should not be better advertised than it is. If you will give to us at the Chamber of Commerce statistics so that we can get them out for you in pamphlet form; or, if you will give them to me this week, I will see that they get in the letter carriers' journal of the United States, which will go into the home of every letter carrier in the United States; 105,000 men will distribute that throughout the broad lines of the United States.

A few years ago I was in business in this city, and I remember with pleasure when a friend whom I see in the rear came to me and asked why I didn't buy the honey that I was shipping in Colorado, and I said, "They haven't any to give us; they couldn't sell me the quantity I want." He said, "Will you let me sell you some?" I bought from him, and I think there was never a year threafter that I didn't buy all of his surplus. I shipped from the State of Colorado over three cars to firms in which I was interested, from here to Chicago. At one time I shipped three cars of honey, and at another time I had bought for them out in Idaho as high as ten cars of honey, because I couldn't get it in Colorado.

Ladies and gentlemen—because I feel the ladies can do this as well as the gentlemen—if you will put your shoulder to the wheel, and take the trouble to give us some statistics, we can show you that it is possible to do great things for the bee-industry in Colorado. Let us assist you, and I am sure that Colorado will never have to go to Idaho again to buy ten cars of honey to ship to the East.

And, as I have said before, the Chamber of Commerce, the Board of Trade, and the city of Denver, stand ready to offer to you not only the glad hand while you are here now, but forever after, at any time that they can be of service to you and to your industry, as well as all other industries not only of Denver but of Colorado. Call on us, and you will not only favor yourselves but you will favor us. It is to our credit to assist you, and we want to assist ourselves as well as you.

I thank you for your attention.

Address by President Harris.

Mr. President and Members of the National Bee-Keepers' Association:

I feel proud on behalf of the State Bee-Keepers' Association of Colorado to greet you here to-night. We have in this State a large honey industry, which, by the probable statistics next year, will amount to nearly $800,000. Within the next two years I think we will be shipping out of the State of Colorado something like 200,000 pounds of honey. The industry in the past, perhaps, has not been recognized as it should have been, for the simple reason that it has not been known how large the industry has grown. You come from the East, you strike the borders of our State, you strike the cattle on a thousand hills, and away on the barren peaks from one side of our State to the other you find there are mines from which millions of dollars have come; and yet the mining proposition is in its infancy. We have a State here that is yet a baby, only 22 years old. Making comparison of it with any other State in the Union, with its unbounded resources, and I will say to you it is simply remarkable. You take the agricultural sections of the State, you take Greeley to the north on the potato proposition, and hundreds of cars each year go away, and bring back to the farmers much money. Take it on the west and southwest, in the rocky country, and there we have the Rocky Ford cantaloupe that is known the world over, hundreds of cars going East each year to the markets.

Take our coal industry in this State; we have coal enough in the various counties to supply the world for years. Take the city of Denver, grand in itself, and in its welcome, the people from the outside all know of it as the great convention city. You then go from the city of Denver to the city of Pueblo, where we have a monster rising up. Then go into the sections on the western slope, where you get the great fruit interests. From that section, taking Montrose, Delta and Grand Junction, there will be over 600 carloads of fruit this year.

Taking all these into consideration, you can have some conception of the immensity of the resources of the State of Colorado, young yet, as I have stated before. With an inter-State canal that will cover something like 200,000 acres of land, there we will successfully land 10,000 people, or 10,000 families, in other words; and where there is a barren desert to-day it may be grown up in flowers, and the farmers will be reaping the alfalfa, and the crops, and bees gathering the honey from the same, and car after car of honey will be shipped, as well as from the other districts.

The half has never been told of Colorado. The people in the East think, in a manner, that we were but a few years ago a set of barbarians. To-day

in Colorado you find one of the most enlightened classes in the world. Take our educational matters, we are second to none in the United States, and each and every individual who lives within the confines of the State feels proud of the education that a young man or young woman can get in the State of Colorado.

We hope, ladies and gentlemen, that when you view our State and look at its wonderful resources and return to your Eastern, Western, Southern, and Northern homes, you will think your trip has not been for naught, but you can go to the people there and tell them that there are still homes here for hundreds; they can come here and make a good, comfortable living. They can do what a great many can not do in the East. And we as bee-keepers, as citizens, all bid you welcome to our State. (Applause.)

Mr. Harris—I have the pleasure of now introducing to you Dr. Mason, who will reply to the Governor's address of welcome.

Dr. Mason's Response.

Mr. President and Brother Bee-Keepers:

It is a very nice thing to listen to such nice speeches as we have been having, but to call upon a man like me, who is not accustomed to speaking in this way at all, is very embarrassing. You see, I am so easily embarrassed, anyway! But I can say to you that we certainly appreciate the addresses of welcome that we have heard, and it is with pleasure that in the name of the members of the National Bee-Keepers' Association to-night, and especially of those from outside of Colorado—for we have them here from Texas, Washington, D. C., New York, Ohio, Michigan, Indiana, Illinois, Wisconsin, Missouri, Kansas, and other States—I heartily thank the Governor for his address of welcome.

Some of us have not yet fully appreciated the beauty and the grandeur of your scenery, but we have met with a warm, open hand and a warm heart, and we can most cordially return these hand-shakes and these heart-welcomes. It has often been said, you know, that those of us who live in the East are tenderfoots; but let me assure you to-night that all who live in the East are not tenderfoots, and that all of the tenderfoots do not live in the East. I think you can appreciate that fact. But we realize that a great many of your people here who are not tenderfoots did come from the East, and some of us who have come in more recently, within a few hours perhaps, may find to our pleasure that we have been welcomed by more than the one class of society, both of them grand and noble in their place.

A few years since, the Hon. Eugene Secor responded to an address of welcome in words so noble and grand that I can not in any way do better than to read to you what he said on that occasion, and, with a few word changes in it, it is applicable to this time and place. [Here followed the poem.]

Mr. Harris—I have just been informed that of the interests of this State the agricultural shows the largest increase, the manufacturing comes next, and the mining last. I now have the pleasure of introducing to you Dr. Miller, who will reply to Pres. Malone of the Chamber of Commerce.

Dr. Miller's Address.

It wasn't necessary for Pres. Malone or anybody else to get up here and tell us we were welcome; we knew it almost before we ever got here; we knew what the people of the State of Colorado were doing from the press; we knew enough to know we were thoroughly welcome; that was the notion I had when I started from home, and I have had no occasion to change it—I don't expect to.

I am glad to be here, but, I tell you one thing, I have gotten over some of the notions I had. My wife was afraid to have me come here, and yet I find it isn't anything like as dangerous as I expected. I find that the president of the Chamber of Commerce looks like a white man. Of course, I know from all that is being brought in about the 22 years and different things, and by his straight hair, that he is an Indian, but I expected to find him with a blanket on instead of like a white man; and I don't believe I would be afraid to sleep in the same room with him at night, and to have a Waterbury watch! I think I might be safe. But, I tell you, some things I have been disappointed in, in another way—the tremendous distances here make it a dangerous place for anybody as short as I am. It has fooled people before my time. I don't know whether any of you know it, because it has not gotten out, perhaps, that there was a man here once who came over from England. He had gone with some of his friends to see the different places of interest, and there is a little hill called Pike's Peak that showed up big, aud he thought he could go there immediately; but he found it a great deal further than he expected, and he found everything else the same way. So he was going along, and his friends were going with him, and they came to a little bit of a stream; he began to take off his clothes, and they said, "What are you doing?" He said, "I am going to swim across." But, they said, "That is only a little way." "You don't fool me," he said; "by the time you start you will find it's a mile across!" (Laughter.)

When we got out to Omaha there was too much room there, our baggage lost us! Then, after we got here I saw a place where I thought there was more room to stay, and some of our friends were there, and I went there—a nice place. And then Pres. Malone said something about my coming down from the gallery, and I started to come; I knew I could get here in just a little while, and I started out there, and I ran with all my might, and I ran that way, and the other way, and when I got down here the soles of my shoes were all worn out; I was a tenderfoot for certain, and if I ever get home I believe I will stay in some little place.

But I want to tell you I am glad you welcomed us here, very glad, and I am glad to shake hands with a civilized Indian. (Applause.)

Pres. Malone—Dr. Miller says I am a civilized Indian. Let me tell you when I first came here to the State of Colorado I worked with a crew that moved all the dirt from Long's Peak, and filled that hole and made it Pike's Peak! (Laughter.)

Dr. Miller—You are bigger than I suspected.

Mr. Harris—I present to you Pres. Hutchinson, of the National Bee-Keepers' Association, who will reply to Colorado's address of Welcome.

Pres. Hutchinson's Address.

Ladies and Gentlemen:

I am not a speech-maker, and I can not reply to this address of welcome, and I shall not attempt to. I can say that we people from the outside know we are thoroughly welcome. We can't object to that.

I wish to say that Mr. Ernest Root will show us, with his stereopticon, views taken from the Atlantic to the Pacific, and I know if he shows those and tells us all he has to say about them he will have to commence pretty soon, and I shall just simply say I know we are welcome, and sit down.

The remainder of the evening was taken by Mr. E. R. Root, of Ohio, who delivered his interesting lecture (illustrated by means of the stereopticon) on "Bee-Keeping from the Atlantic to the Pacific as Seen Through the Camera and Stereopticon." This lecture was very much enjoyed by those who had the pleasure of listening to it, and seeing views projected upon the screen.

At 10 o'clock the convention adjourned to meet the next day, Thursday, Sept. 4, at 9 o'clock a.m.

(Continued next week.)

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

GOOD QUALITY OF HONEY FOR WINTER STORES.

Notice that Doolittle also says that good quality of the honey counts more than any other one thing in wintering a colony of bees. If he had said more than all other things combined, I don't think I should have pitched in. Page 550.

BEES DARKER WHEN HUNGRY.

Dr. Miller might have added to his excellent answer on page 555 this further suggestion: When bees are in real and literal fact "slowly but surely getting smaller and blacker every day," it is because nectar in the flowers is getting scarce. The bees are shutting up—not the shop, but themselves. The sections of which a bee's body is composed are yellow on the inner edge (if anywhere) and dark-colored on the outer edge. Lots of beginners have never heard or thought of this. Most bees look pretty dark when hungry and totally empty—and small also, the sections being slid in to the utmost. And pretty decided hybrids may rejoice their owner's appetite for yellow when distended as far as possible. The amount of honey the home bees habitually carry declines, and I presume the other

fluids of the body decline some also, as the harvest ceases and famine times come on. Often the enterprising apiarist wishes to select the large bees and breed from them till all the bees are larger. It seems to be rather a tough-job to select correctly. When two colonies seem to differ in size April 1st, how shall we tell how much is real difference in size, and how much is difference in distention?

KILLING OFF BEES ON THE SLY.

I rather think that kind of dirty-souled people are not very common—the people who kill off their neighbors' bees more or less on the sly. If the bee-keeper himself is unwisely inclined to go on the war-path he may awaken passions of this kind which would otherwise remain dormant. In one case, long since, I remember wondering if some one was not infecting certain bees with foul brood on the sly. When it comes to keeping discoveries secret for fear a bad use may be made of them—that sort of thing is liable to be greatly overdone. Don't keep a new and better way to kill flies secret for fear some one will use it to kill bees. Page 557.

THE PAIN OF BEE-STINGS.

And so Mr. Harrington thinks that after the first few stings the rest of the hundred or so didn't hurt much. I rather think that that is a genuine and not very uncommon phenomenon. It's queer. Same thing appears when one gets a multitude of small wounds in succession, I believe. As to the why of it, call it one of the wonderful results of nerve-power. Do we rise above pain by sheer inner force? Or do some of the nerve trolleys get off, and the nerves kind o' forget to bring up the pain reports? My best guess is that it takes a magnetic current to carry the impression of pain to the brain (otherwise no pain at all), and that whenever we get into a general and miscellaneous rumpus there are so many other uses for the current that there is very little left to carry pain reports with. Page 563.

QUEEN-REARING AND SWARMING.

I felt comfortably assured that I was right before; but yet I'm glad so strong an authority as C. P. Dadant says the same:

"My experience is that when a populous colony is made to rear queens during the swarming season it will swarm with the first queen hatched more readily than if it had not been caused to rear queens at all."

So a little too late and your bees swarm; and if you are not late you weaken the colony badly and decrease the harvest. In fact, any seasonable application of the method weakens the colony badly. Probably Mr. Dadant is right, that the only practical application of the principle is to have the young queens reared the season before. Helps *some* to discourage swarming even then.

THE STING-TROWEL THEORY—OTHER STINGS.

Well, well! From the warrior feeling for a position to stab home, and the queen troweling the egg into position with her sting, how many miles is it to the "sting-trowel theory" which we have pelted with garbage?

"Always" is a big word. And all the bees that sting did not sting Mr. Cheshire. I prefer to believe that there is now and then an exceptional bee that stings without any poking around to locate.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Feeding Back.

I have a few colonies of bees that are without winter stores and must be fed. I also have some colonies that are stronger and have a full supply, and it is my opinion that if they were to find any more they would put it in the sections. Would they do this if the honey is fed to them? If they would, would it not be wise to feed them, as there is a good demand here for section honey, retailing at from 25 to 30 cents during a light crop? Or, would what is fed to them diminish in quantity enough to leave no profit at all. If you think that there would be a margin, would you advise feeding a No. 1 article, or would the bees not convert an inferior honey to a superior lot? MARYLAND.

ANSWER.—Unless you have had a good deal of experience you will find it unprofitable to feed honey to have it stored in sections. Some say they have made it pay, but most bee-keepers, even these of much experience, have not been successful at it. If you feed back, use only the best honey if you want a good article. The bees will not improve the quality of honey you furnish them.

Not Working in Sections—Knowing Queens—Feeding Bees.

My bees swarmed once in July, so I have 2 colonies, and neither works in the sections. The colony that is left in the old hive does not seem as large as I think it should be. There are acres of goldenrod, ironweed, highbush, smartweed, and corn, as well as vines. Now that is all right for them, and there are no other bees in the country. I fear the old colony has not a fertile queen? How may I know her? Shall I feed the bees? If so, how?

ANSWER.—Possibly you have been expecting your colonies to be stronger than they ought to be. The swarm can have no young bees hatching out for three weeks, and during all that time the bees will be dying off daily, so it will be getting weaker during all of that three weeks. The mother colony is likely to be left quite weak, but will gain rather than lose during the first three weeks. Then will come a falling off for some days, until the progeny of the young queen begins to emerge. Lift out the combs and see whether you can find eggs or unsealed brood. The presence of these is proof that the colony has a laying queen.

Look up the matter of feeding bees in your text-book, and if anything in that is not understood, feel free to ask questions about it in this department.

Storing in the Supers—Fears Short Stores.

Does it deprive the bees of their winter supply to let them continue storing honey in the supers until they quit of their own accord? If so, please tell me how to stop them, and at what time. IOWA.

ANSWER.—Generally bees of their own accord will gradually contract the brood-nest and fill up the brood-chamber with honey. Of course you can prevent them from storing any more in the supers by taking supers off. A better plan is to have a supply of combs of sealed honey, and then after supers are taken off one of these combs can be given wherever needed. You will find good use for a number of them next spring.

Eggs that Failed to Hatch.

During the month of August I brought 3 select queens. The last one I introduced by the wire-screen method. She had commenced laying before I gave the bees free access to her. They accepted the queen all right, but would not accept her eggs—at any rate they failed to hatch into larvæ of any kind. Plenty of eggs can be found at any time; they are laid in as nice rotation as any queen could lay them, but there seems to be something wrong. On opening the hive the bees will commence a low hum or moan, not just like a hopelessly queenless colony, but something similar. I put on a feeder and commenced feeding, but that has not changed matters a bit.

1. Can she be a drone-layer?
2. What becomes of the eggs?
3. What would I better do in the case?

WEST VIRGINIA.

ANSWERS.—1. It is possible, but not probable, that she is a drone-layer.

2. I don't know. Likely the workers eat them, after they have been in the cells two or three days.

3. It is not an uncommon thing for bees to stop breeding toward the last of September, and sometimes as early as the date of your letter, Sept. 15. It is generally supposed, I think, that the queen takes the initiative in this matter, the bees continuing to take care of the eggs as long as the

queen lays; but I have noticed quite a number of cases in which the queen continued to lay for some days after the workers stopped hatching the eggs. So the best thing for you to do may be to do nothing; trusting that the bees may be ready next spring to take care of the brood. There is such a thing sometimes as a queen laying eggs that never hatch; but such cases are very rare (I think I never had more than one such queen), and as your queen was a tested one, she should not come under that head.

Perhaps Paralysis or Poisoning.

On June 2 I sold to one of my neighbors a swarm of bees that came out May 30, and he hived them in a hive on the old combs on which a colony had starved out last winter. He moved the bees right away to his place one block distant from my place. They worked well and put up considerable honey in the brood-combs, and have it about all filled up with brood and honey.

About two weeks ago he advised me his bees were dying; some of them would crawl out and roll down on the ground, while others were carried out by the bees, unable to fly, but would crawl around on the ground and finally become too weak to crawl, and after from 2 to 12 hours would die. Upon mashing them there is a dark-yellow subtance comes out about the size of two wheat-grains. The ground is all spotted up around the hive with this dark-yellow substance. They are not working very much the last few days. The queen looks all right.

Can you give some idea what is the matter with them? and is there any remedy for it? What is it?

My bees, one block away, are working well, and do not appear to have anything the matter with them.

KANSAS.

ANSWER.—I am not sure that I know what the trouble is. It looks a little like paralysis, in which case you will find the diseased bees with trembling wings, some of them having a shiny, black appearance. It looks rather more like a case of poisoning. I am sorry to say that in either case I can offer no remedy.

Probably the Result of Worms.

What causes the following: Nearly every morning I find young bees of a whitish color lying on the alighting boards of the hives; sometimes there is just enough life to cause the legs to move, but generally they are dead.

ILLINOIS.

ANSWER.—It is probably because of the presence of worms in the hive. It might be well for you to examine, and kill the larger worms.

Screening Grapes Away from Bees.

Perhaps you would like to hear how bees are getting along in Virginia. Upon the whole it seems to be an off year. My best colony stored 60 pounds of comb honey in pound sections, and did not swarm. This was all stored in June. Since then they have filled only the sections with comb, but stored no honey.

My other colony stored but 6 pounds of honey, and swarmed once in June. The old colonies are in Langstroth hives; the swarm I got I put into a Danzenbaker hive. This colony has no honey in the super yet, but has filled the most of the sections with comb. Now, you know it is claimed for this hive that the bees will store no honey below. I took it all apart a few days ago, and there is a circle of cells filled with honey from 2 to 4 inches wide, both at the top and at the sides of the 10 brood-frames, with the center built out in worker-cells.

I am only a beginner, this being my first year. I like it very much. I find, however, that the good people who claim that bees will not cut into fruit are away off, at least as far as grapes are concerned. My bees have been on a spree for two weeks, working on my grapes, and have caused considerable loss. I have watched them very closely and have seen them go from berry to berry, especially the thinner-skinned sorts, and cut them. Another year I must surely cage them during this season. Now, will you please tell me the best way to accomplish that? Of course I would expect to feed them during this time, and perhaps allow them a flight late in the evening. Would not an empty super spanned with wire-cloth, and the same over the entrance, be safe? Besides the damage they do in the vineyard they are a real nuisance in the wine-house, stinging and getting into the must, and in and on everything that has any grape-juice on it. They now neglect everything in favor of the grapes, even smartweed and buckwheat. I have a field of black cowpeas, but I have never seen a bee on the bloom. Although there is an abundance of the so-called honey-plant bloom, and the bees get all the grape-juice they can make away with, they have brought in no honey. All honey stored was white clover and poplar.

I do not know about the truth of bitterweed making bitter honey, but certainly the bees work on it for at least three weeks, and as this was before they stored in the super, both the nectar and pollen was either fed to the brood or stored below. VIRGINIA.

ANSWER.—I do not believe you can imprison your bees during the grape season without heavy loss, unless you put them in a cellar where they can be kept in the dark at 50 degrees or less. Some have been very positive that bees cut into grapes, but upon closer observation have always found that no bee ever cut through the skin of a sound grape. After the skin has been broken through, the bees will make rapid work sucking out the juices. Some grape-growers prefer to have the bees work on the grapes, as the grapes they work on would only sour if left on the vines in their broken condition. The bees can be kept away from the grapes after they are off the vines in the same way they are kept from cider-mills, by putting wire-cloth in all doors and windows.

Perhaps Worms in the Hives—Ants.

I wrote you a few days ago that my bees were killing the young bees; they still kill them. I am feeding them sugar every day; they don't eat the sugar very well—some days they eat it all, and other days they leave it. The bees seem very uneasy. Some nights the black ants bother them. I scalded the ants' nest to-day with hot soap-suds, to try to drive them away. They are gnawing at the joints of the cover, trying to get into the hives. ILLINOIS.

ANSWER.—If the number of young bees carried out is not large, it may be because there are worms in the hive.

If the hot water has not made a finish of the ants, you might try pouring gasoline into their nests.

Feeding for Winter Stores.

1. This has been a poor season for honey here. The bees have held their own, but no more. Last spring I increased my bees from 10 to 25 colonies, so I have some small ones that will not gather enough to winter on. Would it not be best to pick out a few of the best ones, put on second stories filled with frames of full foundation, and feed them? Then after the frames have been filled and sealed give them to the needy?

2. Can I feed sealed honey stored in odd-sized frames, by setting them in an upper or third story, after cutting the cappings open?

3. About how many pounds would the bees store from every 100 pounds fed? Or, what would there be in the transfer from the old to the new frames?

4. Or, is it better to feed sugar?

5. If both are good, which is the cheaper when they cost the same per pound? MICHIGAN.

ANSWERS.—1. Yes, your plan is all right.

2. Yes, but unless there is much empty space in the brood-frames you may find the bees making very slow work carrying it down. In some cases they will leave it where it is and seal it over again.

3. I don't know the amount of loss in transferring from one set of frames to the other, but I think it would be very small.

4. I don't know which is best. Some authorities in Europe think it unwise to use sugar except as a matter of extreme necessity, claiming that bees reared on such food will have a weakened constitution. On the other hand, some good authorities in this country think sugar better than honey for wintering. Something may depend on the way the sugar is fed. If fed early, having as much water as sugar, or more water than sugar, so that the bees can make the proper chemical changes, the results may be very different from feeding late, so that there shall be only a third as

much water as sugar. Whether fed thick or thin, it is not well to feed late.

5. Five pounds of sugar made into a syrup with two pounds of water is supposed to be of about the same strength as honey; so you will see that at the same price per pound it ought to be cheaper to feed sugar.

An Experience with Bees.

I have had quite an experience with that colony since I wrote before. I think I said I had examined it carefully three times during 10 days, after first noticing something wrong, and the last two times I could find neither eggs nor unsealed brood in the hive. A greater part of the sealed brood was dead also, the bees busy carrying it out and tearing down comb, and of course there was no sign of a queen. I therefore concluded it was queenless, and wrote for a queen. It was about 10 days later (Aug. 15) when, the queen having arrived, I opened the hive to introduce her. What was my surprise to find a splendid-looking young queen, and 4 frames packed with eggs in the most approved style, every cell having an egg, and no skips. She evidently had been laying a couple of days, as there was no hatched brood. I knew it to be a new queen for I had seen the old one several times, and she had ragged wings.

1. But where did she come from? I examined every frame carefully on Aug. 6, and found no trace of any queen-cells, and no unsealed brood, and no queen; and now, on Aug. 15, I find a young queen at work laying for 2 or 3 days. Did I overlook her on the 6th? or was there a queen-cell in some corner that escaped my search? At all events there she was, and I was then in a dilemma. I had 2 queens on hand. I disliked destroying either; and yet I did not want both. The young black was doing such good work, the caution seemed to say, "Let well enough alone;" but, then, I would rather have the Italian. So I caught and caged the black and set the yellow one in her cage (unopened) over the brood-frames. I waited 2 days and then opened the hive and destroyed 15 queen-cells which they had started. I waited another day and destroyed 8 more, then I let the bees at the candy. In two days more I looked in again and found the bees trying to kill my pretty Italian queen. They had evidently been abusing her for some time. I found her on the bottom of the hive, and about two dozen bees mauling her. Her wings were nearly bitten off and she looked altogether in a pitiable plight. I immediately caught and caged her again. The next morning she looked much better, and I thought I would try again; once more I examined the frames and destroyed 2 very small queen-cells, and I was now satisfied there was no more brood in the hive young enough to start queens from; so I let the bees at the candy end of the cage again. This was on Saturday. On Monday I again looked after my queen, and again found her nearly dead, and the bees still balling her; her wings were now in strips and her legs quite stiff. I knew she could not live, so I let her go and gave back to them (in a cage) their own black queen. I had kept her caged for 10 days while experimenting with the Italians. So you observe that is victory number one for the bees. But if they scored the same, I have learned a great deal about bees. I also learned something else. I discovered what was, and is yet, the matter with my colony. Shortly after the 4 frames of eggs above mentioned (layed by the young black queen) had been sealed, I observed the bees again tearing down the comb and hauling out the brood, the most of it dead. I determined now to make a thorough examination, and to my chagrin discovered that the cells were full of worms (bee-moths). They had gotten under the capping and had tunnels right over the heads of the young bees, and in many places I dug a worm right out of a cell right alongside of the nymph. Fully one-half the brood is destroyed. The rest is hatching out all right.

2. Now, why don't they (the bees) destroy those worms? The colony is strong, and I never saw larger and finer looking bees. They are not the little black bee, but a very large brown bee. I think they must be a cross with an Italian drone, for last year they were certainly all blacks. They have done very little at gathering honey for several weeks past. It takes them all their time tearing down the comb, and even part of the foundation, and carrying out the dead brood.

3. What about the wintering of this colony? Will the bees get the worms killed before time to put them into the cellar, or will the worms remain in the hive all winter and destroy bees? What would I better do in this case? The bees do not seem to be able to get at the worms; and they do not like to "tackle" them when they can get at them.

4. I have also something else to tell you, doubtless not a new experience to you, but rather strange to me. The first queen I got was let loose in the hive on the first day of August. She has done well, and the hive is packed full of fine-looking, bright-colored, young Italians. But here is what surprised me. On Aug. 29, I examined this colony to see how the new queen was getting along, and, as I said, found it packed full of young Italians and plenty of sealed brood, but I found, along with the old queen, and close by her, a fine, long, energetic and very graceful-looking young queen as bright in color as her mother, and apparently on terms of mutual agreement existing between them. Now what does this mean? Does it mean that my new red clover queen which has been laying just about one month, and laying well, too, is now going to be superseded? If so, Dr. Gallup may be right, after all.

5. Shall I leave those two queens in the hive for winter (there can be no more swarming here now this season)? or shall I destroy the young one? Of course, she cannot be mated pure, here, and I dislike to see my beautiful colony of bright Italians go back to blacks again.

I forgot to say that the black queen that I kept caged for ten days while trying to get the bees to accept the Italian, is again laying well. If they can only get the worms destroyed, it may pull through all right yet.

ONTARIO.

ANSWERS.—1. I don't know where she came from. Sometimes a young queen reared in the hive escapes the most careful search; sometimes a virgin queen from elsewhere enters the hive; and in a few cases I have known a laying queen from another colony to enter.

2. The character of the bees has much to do with the matter; blacks will suffer the presence of moths when Italians would clean them out, and some blacks are worse than others. The great number of worms would make the bees somewhat discouraged, for blacks will give up when too many worms are present.

3. With the help that you can give them, they may winter all right. If you dug out all the larger worms, they may take care of the smaller ones, so as to winter pretty well. Take the sharp point of a wire-nail, or the point of a penknife; start at one end of the webbed gallery of a worm, and tear it open perhaps half an inch. Then start at the other end and tear it open the whole length. When the worm, driven by you, comes to the hole first made, it will come out, and you can then deal with it as your judgment dictates.

4. It looks like superseding. Yet it is possible that the old queen has a considerable lease of life before her, for when a queen is introduced the bees are sometimes dissatis- with her for a time, long enough to start a successor, and afterward she proves all right.

5. Leave both for the winter. If the old queen has disappeared by next year, then you may be thankful you did not destroy the young queen. If both are still alive, then divide the colony as soon as strong enough, letting each queen set up an establishment of her own.

Send all the questions you like without any feeling you are intruding, but please don't send anything for postage. When I open a letter and find postage stamps enclosed, it always gives me a sort of chill, for the first thought is that an answer is expected by mail, and although you did not want an answer by mail I want to be spared the chill.

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GENERAL ITEMS

Getting Fall Honey.

I cannot keep bees without the American Bee Journal. I have 23 colonies, some working in the third super. The bees here worked well on red clover. We are getting lots of fall honey. I did not get much white honey as the bees needed it to start housekeeping after staryation during the month of June.

A. J. GIFFORD.

Cass Co., Mich., Aug. 29.

Phacelia Tanacetifolia.

Liedloff writes about phacelia as follows:

"All bee-papers are full of praise about Phacelia tanacetifolia. It is not only a good honey-plant for the bees, but it furnishes with its juicy green stems and leaves also a very excellent green fodder, which horses, cattle, goats and hogs eat with the greatest relish. Cows and goats give, when fed with phacelia, great quantities of milk. The crops of seed are also rich, one acre (American measure) producing in Prussia 400 to 500 pounds of seed. It takes about 5 pounds of seed to sow one American acre. We recommend to all bee-keepers and farmers to try this plant yet this year. The plant does well in almost any kind of soil. The seed can be sown similar to grain after the grain-fields have been plowed. After six to eight weeks the plant is in full bloom." OTTO LUHDORFF.

Tulare Co., Calif.

A Visit to Dr. Gandy, in Nebraska.

FRIEND YORK:—The extraordinary yield of honey in Richardson Co., Nebr., as reported by Dr. G. L. Gandy through the columns of Gleanings in Bee-Culture recently, has created no little interest in the matter of artificial pasturage, and more especially that of catnip as a honey-producer. To determine more clearly these matters of interest, E. R. Root, W. Z. Hutchinson and myself visited the locality and spent several days viewing the different apiaries and the home of the catnip in Nebraska, during which time both Mr. Root and Mr. Hutchinson took many photographic views, and will doubtless be able to illustrate to their readers what they saw while on the ground.

During our stay we were royally entertained by Dr. Gandy and his excellent wife, and no pains were spared to show us the surrounding country. The Gandys own some 20,000 acres of the fertile soil of Richardson and surrounding counties, and the Doctor is, without question, the owner of the greatest number of bees within the great State of Nebraska. While there are some differences of opinion as to the yield of honey during 1901, as reported by the Doctor, and the statements made by residents in and around the locality, and as none of the honey reported is now in sight, of course we had no means of determining which side of the question was the correct one. We are of the opinion that some misconstructions have been placed upon the Doctor's statements, that he was the owner of some 3,000 colonies of bees, and that this whole number had produced the wonderful yield of honey reported by him. While the Doctor has in his home apiary at this time about 137 colonies, he meant, as he stated to us, only to infer that the yield reported came from this apiary alone, and that from many of the out-apiaries he received less surplus, and from some of them none at all. From present appearances there will be a very light yield from this home apiary for this year, and those located in the surrounding country show but little evidences of a copious honey-flow.

At one of the Doctor's farms, occupied by Mr. Bryant, some six miles south, we found the best conditions where there are about 50

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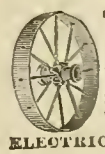

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colonies of bees, and where could be gathered from 1000 to 1500 pounds of surplus honey, although none had been taken from these up to date. The honey-flora, as we were able to see it, consists of sweet clover, heartsease, catnip, white clover, horehound, wild cucumber, buckbush, and in some localities a sprinkling of linden. The farming in the vicinity where Dr. Gandy lives, is too good to expect any considerable flow from the heartsease, and the buckbush, wild cucumber and linden are confined almost entirely to the streams of timber skirting alongeither side of them. Sweet clover grows along the roadsides and waste-places, but not in so great an abundance, as this plant is to be found in many other localities in this State.

Catnip and horehound have been sown by the Doctor and his tenants, and is to be found along the roadsides peeping out from under the hedges, and up to this time no attempt to produce this plant in any considerable quantities out in the open has proved successful, and it is yet an experiment whether this can be accomplished or not, inasmuch as the catnip appears more to desire the shade of other plants rather than the pure sunlight. We were unable to procure a single sample of pure catnip honey, yet we did procure some extracted honey produced on the Missouri River, some 25 miles east of where the Doctor lives, which was mixed with sweet clover and other nectars, and with sufficient catnip to impart a flavor of this plant to the honey.

Dr. Gandy is very enthusiastic over the prospects of the future for producing great quantities of honey from the catnip bloom, and the result of his efforts will be watched with a great deal of interest during the years which are to follow; and while we and others may be a little skeptical upon this point, yet we believe that if there are any good results to be gotten out of this plant the Doctor is pretty sure to find it.

In the manner of hives, and the method of tiering up, as practiced by the Doctor, we do not care to take issue, inasmuch as about the same results can be attained with the same care with any of the movable-frame hives; yet the production of what is called chunk honey, as practiced by Dr. Gandy, is not that class of producing honey which is considered up-to-date by most bee-keepers, but is considered by most of them as having been handed down from the more primitive days of bee-keeping. During our brief stay we did not see a single apiary which might be considered up-to-date in many particulars.

We departed, feeling that whatever might be the results of Dr. Grandy's experiments in growing catnip, horehound and buckbush, and howsomever others might differ from him in these matters, that both he and Mrs. Gandy were excellent entertainers; and that to the visitors who drop in upon them the latch-string of hospitality will always be hanging outward. E. WHITCOMB.

Saline Co., Nebr., Sept. 13.

Not a Good Location for Bees.

I would not be without the American Bee Journal as long as I have bees. My bees have not done well this season; they have increased from 14 to 22 colonies. I will probably have to feed later on.

This is not a good location for bees—too cold and windy, and too many bees for the amount of pasturage. ROSCOE WHEELER.

Alameda Co., Calif., Sept. 8.

Light Yield of Honey.

The honey harvest is over, and the yield has been light, take the county right through.

From 35 colonies, spring count, I harvested 1000 pounds of white comb honey, with no fall flow of yellow honey. Fourteen miles east of here bee-keepers got no white honey, but all yellow.

I lost over half of my young queens this season. They would fly out to meet the drone, but in place of returning to the hive they would drop down in any old place. I found and returned 10 or 12 to their hives, But they were no good. Not one of them ever laid an egg.

Originally my bees were black, but now they have one or two yellow rings on the

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abdomen, so they must have crossed with Italians.

All that I have done is to take queens from my best honey-gatherers for increase. It is five years since I commenced to keep bees.

We get 12½ cents per pound for our honey at home. JOHN F. HUNTER.

Morrison Co., Minn., Sept. 12.

An Arizona Report.

We have about 400 colonies of bees that are run for extracted honey. This season they have averaged about 85 pounds per colony, and will extract once more, and should we get a good fall flow it will give us a big crop of honey.

Our first nectar was gathered from catclaw, which is of a beautiful white color and fine flavor; our next was from alfalfa, which commenced to yield about June 20, and lasted until the first part of September. I am sure we will get one more good crop from it. The first honey from alfalfa was amber, then there came a light shower of rain, and after that came the nectar, and it was almost water-white.

The dry summer, I think, was an advantage to bee-keepers, as the alfalfa did not grow high enough for the farmers to cut it, on account of the scarcity of water in the Gila River, and it just bloomed from June 2 to Sept. 1. Then the rains commenced and it was cut, but will commence to bloom in a few days.

We have about 200 colonies which we run for comb honey, but can not give an estimate of the crop. This valley is now well stocked with bees, and I think overstocked around here.

We run our bees in eight different apiaries. We have over 600 colonies in 8 and 10 frame Langstroth hives; I prefer the 10-frame hive, and I think I would like 12, or even 14, frames better for this county. I will give 25 of each a trial next season, as I always find the most honey in the large hives, and plenty of bees. W. D. JEFFERSON.

Graham Co., Ariz., Sept. 7.

Late Honey-Gathering—Queen-Rearing.

Some one has asked in the Bee Journal whether bees stored honey after Aug. 10. In this locality our fall flow comes after Aug. 10, and some years bees will store 50 pounds of comb honey per colony. Just now we have from two to four supers on, and if the honey keeps on until Sept. 10, as it may, we have no idea what the best will be. After the worst summer season that I have ever seen in this State, we have the best honey-flow just now that I ever saw; and should warm days and nights continue we can not tell what the end will be.

Bees are swarming (when not kept down) as in good May and June honey-flows; this I never saw in this State, nor in Indiana (my old home State), as late as this.

I watch with interest what some have to say about degenerate queens, two-cent queens, and worthless queens. The breeders are keeping silent, and some wondering why. It strikes me that if the breeders should make reply on the subject it would be very interesting and instructive reading, and would be just the thing to do. D. J. BLOCHER.

Stephenson Co., Ill., Aug. 30.

Queen Improved—Honey Report.

I received a queen sent me about a week ago; when I saw her in the cage I was disappointed, she looked so small and inferior, and I took out a fine, large queen to make room for her, and thought I would give her a fair trial. I looked at her yesterday and I was surprised to see how large she had become after she got filled out and over her journey, and I think she will be all right.

August has been a poor month for honey—too wet. I got 900 pounds of basswood honey that is fine and well filled. I think I will have 1000 pounds more of comb honey. I extract the partly-filled sections and save them for next year. I have a few colonies that I got three supers of basswood from, but they were large colonies, nearly a bushel of bees in each colony. There were two or three swarms that came out together and alighted on the same hive. I put them into one hive and had to put on three supers before the bees could get into them. This is the kind of colony I like. I think I will have more honey to sell than all the other bee-keepers put together in our county.

I have a home market for all the honey I can produce, and more too. I have developed a market in the past by peddling honey from house to house. When the children see me coming they run and tell their mothers, and I hear them tease, "Mamma, buy some; do, mamma." So, if the stores do not come to my terms, I start out with a couple of cases of honey on a wheelbarrow, and I will dispose of them in two or three hours.

I will write again when I take off the last honey, and the season is over.

WM. CLEARY.

Kossuth Co., Iowa, Sept. 1.

Bees Did Not Do Very Well—Keeping Combs.

The bees have not done very well this year. They are storing a little from fall flowers now. I think of changing my location, going to Texas. I have kept bees here for 30 years or more, and have taken the American Bee Journal the greater part of the time.

Since I have written this much I wish to speak of saving comb honey from the moth. Combs hung up separately in a barn or open shed will never be disturbed by moths. Bee-moths works on the same principle as other moths. I keep hundreds of combs in this way; I never had the fumes of sulphur do any good. GEO. STINEBRING.

Wayne Co., Ohio, Aug. 29.

Late Gathering—A Fair Crop.

On page 556, J. A. Watkins, of Idaho, says that the statement had been made there that bees in the Eastern States do not gather honey after Aug. 10 to any extent. In a note at the foot of the article a request is given to answer, by giving the amount a colony has been known to gather after that date. I will give my experience on the subject. Two years ago, on Aug. 3, 1900—I had a prime swarm issue, which I hived on full sheets of foundation. As my bees were bringing in honey quite freely, I thought they would store enough honey to carry them through the winter. On Aug. 11, I examined the hive to see how they were progressing, and, to my surprise, I found that they had the foundation all drawn out, and were sealing over the honey along the top-bars, and the queen was laying freely. I then put on a super (my supers hold only 21 sections), and on Aug. 19 they had it filled and capped over; I raised the super and put on another, and on Aug. 30 they had that filled. In just 19 days they had filled 42 one-pound sections of beautiful white honey, and all capped over as white as

QUEENS!

This is your last chance for this season to get Queens from Quirin's Famous Red Clover stock, so hurry in your orders. We have files of testimonials like the following:

Mr. J. Roorda, of De Motte, Ind., bought 4 dozen in the spring, and says the workers are hustlers; while E. L. Messenger, of New Haven, Conn., says the queen bought last season produced bees which beat anything in that part of the country.

Price of Queens for balance of season:

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Selected	$ .75	$4.00	$ 7.00
Tested	1.00	5.00	9.00
Selected Tested	1.50	8.00	
Extra Selected Tested, the best that money can buy..	3.00		

We guarantee safe arrival, to any State, continental island, or any European country. Can fill all orders promptly, as we expect to keep 300 to 500 Queens on hand ahead of orders. Special price on 50 or 100. Free Circular. Address all orders to

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[Parkertown is a P. O. Money Order office.]
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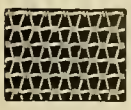

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48—38A3t

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snow. I then put on the third super, and they filled 11 sections; the remainder were only partially filled; they would have completed the third super if it had not been for the Texas cyclone, which reached here about Sept. 10 or 12; after that the weather changed, and they did not store any more surplus honey. But I was satisfied; they had filled 53 one-pound sections with as nice white honey as any one could desire, besides storing enough in their hive to winter on.

Last year that colony stored 169 pounds, the most of it from red clover; they would have stored over 200 pounds if it had not been for the cold, windy weather that we had the latter part of August and in the month of September.

I get my best flow of honey during August and September, if the weather is fair and warm enough; mostly from goldenrod and wild asters, which always yield honey very freely. Within about two miles from where my bees are located there is about 200 acres or more which, at this season of the year, is one mass of wild flowers, mostly goldenrod and wild asters.

I have kept bees for 10 or 12 years, but this has been the poorest season I ever saw; thus far I have taken off only one super of 21 sections. During June, July, and the first part of August, I had to feed some of them to keep them from starving.

The weather has been fair for the last week, and bees are working freely on the early goldenrod; there are several varieties, and usually the season lasts about six weeks. With warm, pleasant weather for the next three weeks, I will be able to report a fair crop of honey. GEO. H. WEAVER.

Oneida Co., N. Y., Sept. 1.

CONVENTION NOTICES.

Utah.—The Utah Bee-Keepers' Association will hold the annual convention in the City and County Building, Salt Lake City, Utah, Oct. 6, 1902, at 10 a.m. Business of interest to all bee-keepers will be presented. All are invited.

J. B. FAGG, Sec.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held at the Court House in Freeport, Ill., on Tuesday and Wednesday, Oct. 21 and 22, 1902. All interested in bees are invited to attend.

Cherry Valley, Ill. B. KENNEDY, Sec.

One Fare for the Round Trip

to Boston and return, via Nickel Plate Road, Oct. 7th to 11th, account meeting of Brotherhood of St. Andrews. By depositing tickets at Boston and paying fee of 50 cents, extended return limit of Nov. 12th may be obtained. Through vestibuled sleeping-cars and first-class service in every respect. Cheap rates to all New England points Write John Y. Calahan, 113 Adams St. Chicago, for particulars. 49—38A3t

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.20	2.30	5.50	10.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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FOR SALE.

100 colonies of hybrid bees in chaff-hives.
100 empty Simplicity bodies.
30 empty Root chaff-hives, tin roofs.
30 empty Falcon chaff-hives, tin roofs.
2 two-frame reversible Cowan Extractors.
1000 Extracting Frames, L. size.
2 tons extracted buckwheat honey.

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This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
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1902—Bee-Keepers' Supplies!
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich
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The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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REVISED ADVANCED PRICES.

The cost of material and labor have advanced to such an extent during the past year at the following advance in prices is made imperative. The revised table of prices, as ey will be given in our 1903 catalog, are given below. These prices are in effect from ept. 1st till further notice, and all previous prices not in conformity with these are ncelled.

The Jumbo and Little Daisy sizes of Corneil smokers are not yet ready, and will not for some time yet; but we are getting ready to furnish these two sizes; and the andard size, as well as the Clark, will be improved.

HIVES.

	RETAIL.				
	Nled P't'd	In flat in lots of— 1	5	10	25
8-FRAME DOVETAILED HIVES.					
ottom-board, 8-frame (A or B -8)	30	20	90	1 70	4 00
over-board, " (E, F, or G -8)	40	30	1 25	2 40	5 50
mpty body, "	50	40	1 80	3 40	8 00
ody with frames and division-board (5-8)	90	70	3 10	5 80	13 50
ody with frames, div'n-board, found'n-starters (6-8)	1 00	75	3 35	6 30	14 75
hallow super, empty	30	20	90	1 70	4 00
hallow super—section-holders and separators (2S-8)	55	45	2 00	3 60	8 25
hallow super—section-holders, seps., sections (3S-8)	70	55	2 50	4 60	10 75
hallow super—sec.-hold., seps., secs., starters (4S-8)	80	60	2 75	5 10	12 00
eep super	30	21	95	1 80	4 25
eep super—frames, division-board (8-8)	55	45	2 00	3 60	8 25
eep super—frames, div'n-board, fdn.-starters (9-8)	65	50	2 25	4 10	9 50
ive-stand	25	15	65	1 20	2 75
over, bottom, and body, with frames (BE5-8)	1 60	1 20	5 25	9 90	23 00
over, bottom, and body, with frames and starters	1 70	1 25	5 50	10 40	24 25
½-story without sections and starters (BE52P-8)	2 15	1 65	7 25	13 50	31 25
½-story with sections and starters (BE64P-8)	2 50	1 85	8 25	15 50	36 25
story without sections and starters (BE522P-8)	2 70	2 10	9 25	17 00	39 50
story with sections and starters (BE644P-8)	3 30	2 45	11 00	20 50	48 25
story with frames and division-boards (BE55-8)*	2 50	1 90	8 85	15 70	36 50
½-story with frames and division-boards (BE58-8)*	2 15	1 65	7 25	13 50	31 25
10-FRAME DOVETAILED HIVES.					
ottom-board, 10-frame (A or B -10)	32	22	1 00	1 90	4 50
over-board, 10-frame (D E, F, or G -10)	43	33	1 50	2 70	6 25
mpty body, 10-frame	52	42	1 90	3 60	8 50
ody with frames only	90	70	3 10	5 80	13 50
ody with frames and division-board (5-10)	95	75	3 50	6 40	15 00
ody with frames, division-boards, starters (6-10)	1 05	80	3 75	6 90	16 25
hallow super, empty	32	21	95	1 80	4 25
hallow super with sec'n-holders, separators (2S-10)	60	50	2 25	4 00	9 25
hallow super with sec.-holders, sep., sections (3S-10)	75	60	2 75	5 00	11 75
hallow super with sec.-hold., sep., sec., starts (4S-10)	85	65	3 00	5 50	13 00
eep super, empty	33	22	1 00	1 90	4 50
eep super with frames and division-board (8-10)	60	50	2 25	4 00	9 25
eep super with frames, divis'n-board, starters (9-10)	70	55	2 50	4 50	10 50
ne-story hive, no starters (BE5-10)	1 70	1 30	6 00	11 00	25 75
ne-story hive, with starters (BE6-10)	1 80	1 35	6 25	11 50	27 00
½-story hive, no sections or starters (BE52P-10)	2 30	1 80	8 25	15 00	35 00
½-story hive, with sections and starters (BE64P-10)	2 65	2 00	9 25	17 00	40 00
story hive, no sections or starters (BE522P-10)	2 90	2 30	10 50	19 00	44 25
story hive, with sections and starters (BE644P-10)	3 50	2 65	12 25	22 50	53 00
story hive, with frames and div'n-boards (BE55-10)*	2 65	2 05	9 50	17 40	40 75
½-story hive, with frames, divis'n-boards (BE58-10)*	2 30	1 80	8 25	15 00	35 00
DOVETAILED CHAFF HIVES.					
W5 hive	2 85	2 30	10 25	19 40	44 50
W52 hive	3 40	2 75	12 25	23 00	52 75
W64 hive	3 75	3 00	13 25	25 00	57 75
cover	60	50	2 30	4 00	9 00
cover	75	60	2 80	5 00	11 50
haff-tray	25	20	85	1 60	3 00
per-cover	10	10	50	90	2 00
chaff-body	1 50	1 20	5 50	10 50	25 00
5 chaff-body	1 90	1 50	6 80	13 00	30 50
6 chaff-body	2 00	1 55	7 05	13 50	31 75
winter-case body	60	50	2 20	4 00	9 00
Z winter-case complete	1 20	1 00	4 50	8 00	18 00
DANZENBAKER HIVES.					
anz. AD5 hive	1 65	1 25	5 75	10 50	24 25
anz. AD52M hive	2 50	1 95	9 00	16 50	37 75
anz. AD64M hive	2 85	2 20	10 25	18 50	43 00
anz. 5 body	90	70	3 25	6 00	13 50
anz. 6 body	1 00	75	3 50	6 50	14 75
anz. 2M super	85	70	3 25	6 00	13 50
anz. 3M super	1 00	85	4 00	7 00	16 00
anz. 4M super	1 10	90	4 25	7 50	17 50
anz. AD6 sample hive			6 25	11 50	26 75
anz. 4M sample super			4 50	8 00	18 75

	100	500
Hoffman Frames	2 50	11 00
Thick-top Frames	2 25	10 00
All-wood Frames	1 80	8 00
Shallow Frames	1 80	8 00
Danz. Frames	2 25	10 00
Danz. Sec.-holders	2 00	9 00
Danz. M Fences	1 75	8 00

	1	10
Chaff Div-b'ds, nailed	.30	2 60
" " flat	.15	1 30
Plain " nailed	.10	90
" " flat	.08	70

SECTIONS.	No. 1.	No. 2.
Per 100	$ 60	$ 50
Per 250	1 15	1 00
Per 500	2 00	1 75
Per 1000	4 00	3 50
Per 2000	8 00	7 00
Per 3000	11 25	9 75
Per 4000	14 60	12 00
Per 5000	17 50	15 50

	1.	10
D Sec. Case complete	.15	1 30
D Sec. Case, flat	.06	50
D Sec. Case, 10-fr., flat	7	60

	100	500
Slotted Sec-holders	1 70	7 00
Slotted Sec. Slats	85	3 50
Plain Sec-holders	1 40	6 00
I Plain Slats	85	3 50
L Plain Slats	60	2 75
Slotted Separators	90	4 00
Plain Sawed "	60	2 75
Slat Separators	1 50	6 75
Fence Separators	1 60	7 25
M Fence Separators	1 75	8 00

HONEY-EXTRACTORS.	
No. 4 and 5 Novice	8 50
No. 7 and 10 Novice	9 50
No. 15 Cowan	11 50
No. 17 Cowan	12 50
No. 18 Cowan	13 50
No. 20 Cowan	16 00
No. 25 Cowan	23 00
No. 27 Cowan	27 00
No. 30 Cowan	30 00
No. 37 Cowan	35 00
Novice Honey-knife	80
Bingham "	70
Dadant Uncapping-can	8 50
German Wax-press	14 00
Swiss Wax-extractor	3 00
" " with gen.	4 00
Doolittle Wax-extractor	4 00

SMOKERS.	1	3
Jum. Corneil, 4-in. st.	1 25	3 30
Standard " 3¼-in.	85	2 25
Little Daisy 2½-in.	65	1 80
Clark Smoker	55	1 50
Bee-tent	1 75	

ESCAPES.	1	10
Porter Escape board	.15	1 40
Escape with board	.35	3 20

FEEDERS.	1	10
Simplicity	.06	50
Division-board	.25	2 20
" " flat	.18	1 60
Miller, nailed	.30	2 70
" " flat	.25	2 30

†SHIPPING-CASES.

	Nailed	—In Flat—3-in gl. 1	10	100	2-in.gl. 100	No gl. 100
2-in. 4-row	30	22	1 80	16 00	15 00	13 75
3-in. 4-row	30	22	1 70	15 00	14 00	12 75
2-in. 2-row	20	15	1 20	10 00	9 50	8 75
3-in. 2-row	20	15	1 10	9 50	9 00	8 25
3-in. 2-row	25	16	1 30	11 00	10 50	9 75
3-in. 3-row	20	16	1 20	10 50	9 75	8 75
½-in. 3-row	20	15	1 10	10 00	9 25	8 25
⅜-in. 4-row	30	20	1 70	15 00		12 75
⅜-in. 3-row	25	18	1 30	11 00		9 50
½-in. 4-row	30	20	1 70	14 50		12 50
⅜-in. 3-row	20	15	1 20	10 00		8 50

COMB FOUNDATION.

Name of Grade.	Size sheet	No. to lb.	Price per lb. in lots of 1	5	10	25
Medium Brood	7¾×16⅞	7 to 8	53	51	49	48
Light Brood	7¾×16⅞	9 to 10	55	53	51	50
Thin Super	3⅞×15½	28	60	58	56	55
Extra Thin	3⅞×15½	32	63	61	59	58

* Add 10c per hive for fdn-starters in these two hives.
† Covers and bottoms over 7 inches wide to be in two pieces, and may be shiplapped together. This is made necessary by the increasing difficulty of finding wide boards for making covers and bottoms in one piece. 12-in. 4-row cases have had 2-piece covers and bottoms for years; we are extending this to other sizes as well.

THE A. I. ROOT CO., MEDINA, OHIO.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 19.—Comb honey is meeting with good demand and the arrivals are easily disposed of at 15@16c per pound for that which grades No. 1 to fancy. Very little of the lower grades are offered, but bring within 2 to 3 cents of No. 1. Amber grades of comb are also scarce, with no buckwheat offerings. Extracted is steady, white bringing 6½@7c; amber, 6@7c; Southern and odd lots of dark, 5@6c. Beeswax, 30c. R. A. BURNETT & Co.

KANSAS CITY, Sept. 20.—The demand still continues good for comb honey, but receipts are very light and meet with ready sales at these quotations: Fancy white comb, 15c; No. 1 white, 14c; No. 2 white and amber, 13c; dark, 12c. Extracted, white, 6@6½c; amber, 5@5½c. Beeswax, 22@25c. C. C. CLEMONS & Co.

CINCINNATI, Aug. 30.—The demand for comb honey at present is very good; all shipments are sold quick at 15@16c for No. 1 and fancy. We advise shipping while demand is good and before the western carloads are here. In three weeks from now carloads will arrive, then demand is satisfied, sales harder to make, and prices demoralized. Extracted honey is selling as fast as it arrives, at the following prices: Amber and Southern in barrels, at 5½@6½c, according to the quality. White clover, 7½@8c. Beeswax is scarce at 30c. THE FRED W. MUTH Co.

ALBANY, N. Y., Sept. 24.—Honey receipts are light here so far, and good demand for comb honey. We quote light comb, fancy, 16c; A No. 1, 15c; No. 1, 14c; mixed and dark, 13c; buckwheat scarce at 12@13c. Extracted, light, 7c; mixed, 6½c; buckwheat, 6c. Beeswax, 28@30c. H. R. WRIGHT.

NEW YORK, Sept. 20.—Comb honey is in good demand; fancy white at 15c, and some exceptionally fancy lots may bring a little more. No. 1 sells at 13@14c; amber at 12c; no arrival of buckwheat as yet, the season being late. Extracted firm at 6½@7c for white, 6c for light amber, and 5@5½c for dark. Beeswax firm at 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Aug. 29.—New comb honey is not coming in so plentiful, so far. Whatever has come in, and is fancy water-white, has brought a good price, and sold to stores at from 15@16c. Honey kept over from last year, fancy sells for 14c. The market for extracted is more lively and brings: Amber, from 5@5½c; alfalfa water-white, from 6@6½c; white clover, from 7@7½c. Beeswax, 28c. C. H. W. WEBER.

SAN FRANCISCO, Aug. 20—White comb, 13@14c; amber, 10@12c; dark, 8@9c. Extracted, white, 5½@5½; light amber, 5@5¼; amber, 4½@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

Not much offering or arriving of any sort. While the market is firm throughout, current values are being better sustained on comb than on extracted, for the reason that the latter has to depend to some extent on outside demand. All the comb honey offering will be required locally. The shipment of comb honey has never proven satisfactory, and the production is in consequence restricted to small compass.

Wanted—Extracted HONEY. Mail sample, and state style of package and price delivered in Chicago.
John F. Campbell, 53 River St., Chicago, Ill.
34Atf Mention the American Bee Journal.

WANTED!
Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER, 2146-2148 Central Ave., CINCINNATI, OHIO.
21Atf Mention the American Bee Journal.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.
THE FRED W. MUTH CO.
32Atf Front and Walnut, CINCINNATI, OHIO.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

BEE-KEEPERS,
Save Money by Buying
Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF
THE W. T. FALCONER MFG. CO.,
Jamestown, N. Y.
☞ Our goods are guaranteed of superior quality in every way.
Send for our large illustrated catalog, and copy of
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., OCT. 9, 1902.

FORTY-SECOND YEAR
No. 41.

WEEKLY

HOME APIARY OF A. COPPIN, OF MARSHALL CO., ILL.—(See page 644.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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IMPORTANT NOTICES.

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OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

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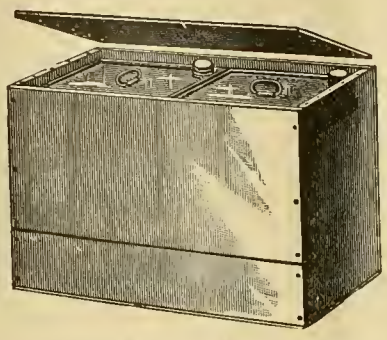

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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

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A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 9 cents per pound; 4 cans or more, 8½ cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., OCT. 9, 1902. No. 41.

Editorial Comments.

Methods of Clipping Queens' Wings.—Bee-keepers differ in their practices, and each one is perhaps a little too much inclined to think his own way is the best, if not the only way worth considering. Clipping may be done by means of scissors or knife, or clipping device. The way one starts out with, and becomes accustomed to, is perhaps his best way. Those who have for years used either scissors or knife without having tried anything else may not be willing to potter with any kind of a clipping device, but if they had begun in the first place with a device of some kind, they might have quite a different feeling. There are some so nervous that it is almost torture to attempt to take hold of a queen, and for such persons some clipping-device is a boon. There are others—and their number may be larger than supposed—who have no nervous feeling in the matter, but whose hands are so shaky, or the sense of touch so dull, that a queen may be mashed in the catching. Such persons must have some kind of clipping-device, or refrain from clipping altogether.

Probably most bee-keepers use scissors for clipping. Others use a knife, and of these some are inclined to speak as if it were a great mistake for any one to use scissors. While allowing that the knife may be the best for those who have always preferred that plan, there may be no harm in making some defense for those who are addicted to scissors.

One argument in favor of the knife is that it is not necessary to handle the queen at all except to take her by the wings, and thus no foreign scent will be given to the queen to make the bees attack her. But one is not supposed to have anything but clean fingers, except as they are daubed with propolis, and no harm would come from this latter. If one's fingers have such an objectionable odor as to endanger the queen, even taking her by the wings might not be safe, for the same odor would be given to the wings, and if that objection be valid it will rule out knife as well as scissors.

The great point claimed in favor of the knife, is that every one has a pocket-knife—so it is always handy. This ignores utterly nearly all bee-keepers of the female persuasion; for they are not supposed to carry pocket-knives, and are much more likely to have scissors somewhere about their persons. Leaving them out of the count, however, a knife, to make good work at clipping, must have a keen edge to cut off a wing laid against a finger or thumb, and one does not always have handy a knife that is very sharp. To be sure, one can in a pinch use a dull knife, cutting the wing against the edge of a board, but no one recommends this as a desirable way, and if the fact that one has nearly always present some kind of a knife be a sufficient argument in favor of the knife, the same argument might make finger-nails come off victors over knives, for finger-nails can be made to mangle off a wing, and they are more sure to be on hand than knives.

But the scissors-clippers may reply that it is just as easy to have a pair of scissors constantly on hand as to have a knife, and the knifers must admit the truth of the reply for all who are willing to be to the trouble of having the scissors constantly on hand.

If the scissors-clippers should not be satisfied with remaining on the defensive, but take up the aggressive, they might say that however the queen's safety might be concerned, the operator would be in many cases much safer with scissors. One of the veterans with finger-tips calloused with handling frames might safely cut an appreciable distance into the skin without danger from a sharp knife, but one with tender finger-tips, especially if a little nervous, would feel much safer with scissors. To put it in stronger terms, with the scissors there is no possible danger of cutting the fingers, and there is danger with the knife.

There, now, it may not be best to say anything more against the knife for fear of being knifed by the knifers.

Moving an Apiary a Short Distance.—The apiary at the Hawkesbury Agricultural College in Australia was moved a short distance the last week in December, that date corresponding to the weather of the last of June in this country. The result is thus given in the Australasian Bee-Keeper:

On the morrow not one percent of the bees returned to the site of their old home, although it was in such close proximity. This is the way it was done: All things being in readiness, a moonlight night was selected. The entrance to each hive was closed by means of damp rags, and the hives were placed on hand-barrows and carried to the concrete stands; these were all in place beforehand; pieces of board, two or three bricks, bushes, in fact anything, was placed in front of each hive; these, when the bees came, caused them to study their new location, and at the same time caused them to forget the old. A clean sweep had been made of their old homes. Every piece of loose wood, brick, bush, etc., had been removed. There was really nothing left to indicate that an apiary had ever stood there.

Any one wishing to remove an apiary to a new site near by, if he follows his plan, need have no apprehension that the bees will return to the locality whence they came.

Denver Convention Notes.—In our notes last week we had just arrived in Denver. We were met at the Union Depot by Mr. F. H. Hunt, and at once escorted to the State House, where the Colorado Bee-Keepers' Association was in session, with Pres. J. U. Harris in the chair. There was a good attendance. At their closing, or afternoon, session, those from outside of Colorado were called forward and introduced to the convention, among them being Dr. Miller, Editor Root, Frank Benton, Dr. Mason, W. L. Coggshall, W. F. Marks, O. L. Hershiser, E. T. Abbott, C. H. W.

Weber, E. S. Lovesy, W. Z. Hutchinson, F. E. Brown, and Louis H. Scholl.

Perhaps it is unnecessary for us to refer to the convention proper, as about all of interest will appear in the very full report of the proceedings which is now running in these columns.

But we must speak of the banquet which was tendered those residing outside of Colorado. It was an elaborate affair, and delightfully carried out. Mr. D. W. Working was the witty toast-master, and his introductions of the various speakers were superbly done. Among those who responded were Messrs. Harris, Hutchinson, Hershiser, Benton, Rhodes. Booth, Mrs. Grenfell, and Mrs. Martin. It all was indeed a treat, and lasted almost until midnight.

Very small sections, perhaps the smallest sections of honey ever produced in such quantity, graced the table at the Denver banquet. One of these sections was placed at the table of each guest, and they were carried away as souvenirs. They were beautiful in appearance, each one being a plain section measuring 2⅛x2⅛x1¼, four of them thus occupying the space of an ordinary pound section. But instead of being one-fourth as heavy as a pound section, each of them contained only about two ounces of honey. Mr. Jas. U. Harris, vice-president of the National Association, was the man who produced them, and he said it was done only by crowding the bees very hard, and giving them only one case of sections, while other colonies had two cases of ordinary sections. He thought such sections could only be afforded at two or three times the price of the pound sections. Which serves as additional proof that the usual size section is small enough.

The Colorado bee-keepers did themselves proud in every way during the whole of the convention. Mr. Working, and those who worked with him, must have been glad when it was all over. We do not think they will want us all to come again very soon. But it was thoroughly enjoyable throughout, especially for those who came a long distance, and will never be forgotton so long as their memories endure.

Next week we will begin to tell of a few side-trips that we took after the convention. We really had never seen much mountain scenery, so, of course, it was entrancing. The only regret we now have is that we are unable to compel our pencil to do justice to the wonderful sights that we were permitted to behold and enjoy during the three or four after-convention days.

The Weekly Budget.

ALEXANDER, JOURIER, of Ural, Russia, writing us Sept. 1, sent the following in addition to a letter extending the sympathy of the bee-keepers of Russia to the family of the late Chas. Dadant:

"The book, 'Langstroth on the Honey-Bee,' revised by Chas. Dadant, after translation into the Russian language, had great influence in extending the movable-hive system in Russia, first introducing the Dadant hive. Here in Ural we adopted one for our apiaries in 1893, and the great advantages from its use are now plainly visible."

THE HOME APIARY OF A. COPPIN appears on the first page. He wrote us as follows concerning it:

My home bee-yard consists of three grape-arbors, as shown in the picture, all of which are 104 feet long. The posts are 8 feet apart each way, and a grape-vine by each post. The first side-rail is about 4 feet from the ground, and the vines are spread on this rail and turned up to cover the top.

This cover is excellent shade for both bees and operator, there being no vines in the way of the bees flying in and out. In the center the side boards are left out between two posts, so that we can have a cross road from one arbor to the other.

The hive-stands are made from fence-boards 8 feet long, three hives to the stand. It will hold 216 colonies, but we never keep that many at home. The house seen at the other end of the arbor is the honey-house.

The alighting-boards are made from lath and shingles, which are just the right length to reach from the entrance to the ground with good slope.

The two persons seen in the picture are my wife and myself. The backs of the hives all face in where my wife stands, thus making a very pleasant place to work with bees.

Bee-keepers often say, while visiting me, "What is the reason I don't get stung here the same as I do at home? Is it because the bees are gentler, or is it because we are under the grape-vines out of their way?"

This apiary is run for comb honey. We run our out-apiary for extracted honey. A. COPPIN.

NOMINATIONS FOR GENERAL MANAGER.—We have received the following from Herman F. Moore, which needs no further introduction:

To the Membership of the National Bee-Keepers' Association:

The undersigned views with alarm the unkindly spirit that seems to have animated some of the officers and members of the National Bee-Keepers' Association. The results of the discussion about the General Managership, if continued in the present spirit, may be serious, or even fatal, to our beloved Association.

Since my nominee for this position, Mr. York, has been elected to the Secretaryship, I, as a plain member, and in the interest of harmony, hereby appeal to the membership to decide this question; not by personal feeling or animosity, but according to the will of the majority, and the lasting welfare of the National Bee-Keepers' Association.

I hereby nominate the following for the office of General Manager of the National Bee-Keepers' Association, to be voted for at the next election, arranging them in alphabetical order:

EMERSON T. ABBOTT, of Missouri. NEWELL E. FRANCE, of Wisconsin. CAMILLE P. DADANT, of Illinois. R. L. TAYLOR, of Michigan.

Very respectfully yours,
HERMAN F. MOORE, of Illinois.

There remains less than two months yet until the annual election to be held by the National Association, at which time three Directors and a General Manager are to be elected. The business ability of the four candidates for General Manager, presented by Mr. Moore, can not be questioned. Any one of them should be able to handle the affairs of the Association as General Manager in an acceptable manner to the membership. We suppose other candidates will be nominated also. Then when the time comes to vote, those who are entitled to cast their ballots will do so, and the one receiving the highest number of votes will be the General Manager for 1903. Whoever is the successful candidate will suit us. We will not champion any one in particular in the American Bee Journal, as we believe in a fair deal, and that the voting membership know well enough for whom they want to cast their votes.

But please don't vote for the editor of the American Bee Journal, as he is not a candidate for any office in the National Association. When he accepted the office of Secretary, at the Denver convention, that ended his candidacy for the General Managership. He does not believe in one person holding two offices in the Association when there are so many excellent men in the ranks who should have a chance to show their ability and fitness for positions of responsibility and trust.

The Denver Convention.

Report of the Proceedings of the Thirty-third Annual Convention of the National Bee-Keepers' Association, held in Denver, Colo., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 631.)

SECOND DAY—THURSDAY, SEPT. 4.

At 9:35 a.m., Pres. Hutchinson called the convention to order, and delivered the President's annual address on

The Future of Bee-Keeping.

FELLOW BEE-KEEPERS:—Has there ever crossed your mind the thought that modern bee-culture has advanced by distinct stages? When Father Langstroth's invention laid bare the secrets of the hive, allowing man to turn one more page in the book of Nature, then began what might be called the mechanical stage. In this were brought forth hives, smokers, sections, comb foundation, and the honey-extractor. Minor mechanical improvements, like the bee-escape, the queen and drone trap, the solar wax-extractor, the wax-press, perhaps an uncapping machine, may be occasionally added to our list of implements, but the fundamental, mechanical improvements were made long years ago.

Next came the methodical stage, when, with the aid of mechanical inventions, were developed methods and systems of management. Bee-keepers learned to control increase, to rear, ship and introduce queens, to secure the largest amount of the best honey in the most marketable shape—learned the numerous operations that come under the head of manipulation. Some of our present methods will certainly be improved upon, but it is doubtful if future bee-keepers will secure their crops with much less labor than we now bestow upon ours. Our hives, implements and methods leave little room for improvement.

In another respect bee-keeping is not now what it was years ago. The invention of improved hives and implements, allowing the adoption of more profitable methods, but calling for greater skill, has gradually led bee-keeping from mixed husbandry to that of specialty. Of course, there are, and probably always will be, people whose tastes impel them to keep a few bees, but the great mass of people have found it more profitable to buy their honey, the same as they have learned that it does not pay them to make their own cheese.

Bee-keeping has become a distinct branch of agriculture, and is largely in the hands of specialists. These specialists have implements and methods that answer well their purpose, and the natural question is, "What next?" What will be the next stage? What will be the future of bee-keeping?

The answer is not far to seek. The history of kindred industries will be the history of bee-keeping. First came discovery, invention and development; next came specialty, and now comes ORGANIZATION and CO-OPERATION.

Most emphatically is this an age of organization. An industry without organization is practically helpless—at the mercy of all other organizations. Organization saved the citrus fruit industry of California. But we need not go that far for an illustration. Right here, in this good State of Colorado, with its fields watered from the eternal hills, and robed in the royal purple of alfalfa, bee-keeping would have lan-

W. Z. HUTCHINSON.

guished, and been robbed of its commercial charm, had not organization come to the rescue.

Organization has already done much for bee-keeping. It has fostered a fraternal spirit, helped to scatter apicultural wisdom from ocean to ocean, protected its members from unjust persecution, and secured favorable legislation. But the dear old Association, of which we are all so proud, is even now but the nucleus of what it is destined eventually to become.

Perhaps the next great work of this organization will be the timely gathering of statistics regarding the prospective harvest, and the reporting of the supply and demand in different localities, thus preventing glutted markets and unprofitable sales. From this the good work will go on until, if the Association does not actually control the bulk of the sales, it will be a potent factor in the regulation of prices.

Honey may never be higher in price than it is now, but it will be produced at less cost. The continued development of specialty and of organization will lessen the cost of production. The number of bees will be increased, but not the number of bee-*keepers*. They will "keep more bees." Few bee-keepers will be content with simply the home apiary. There will be an out-apiary for each day in the week. With this style of bee-keeping organization will be an easy matter.

Commercial bee-keeping of the future will be in the hands of specialists. In the hands of men who have carefully selected and thoroughly understand their respective localities. Of men who keep enough bees to employ fully their hands, their brains, and their capital. And among these men there will be complete organization and co-operation.

As a foundation for the more perfect organization of the future, let us cherish and foster the dear old Association of which we are now members. Let us pay our dues promptly. Let us encourage others to join. Let us lay aside self and selfishness. And of the talents that we possess let us give that which will the most quickly and surely help to build up, to strengthen, and to broaden its scope. Let us rest not until every bee-keeper, from ocean to ocean, has rallied under its banner, and all can co-operate as the members of one great family.

W. Z. HUTCHINSON.

Pres. Hutchinson—I don't know as it is customary to discuss the President's address, but I would like to hear it discussed. I think it is a subject worthy of discussion.

R. C. Aikin—I think I shall not say very much relative to this subject, except on one particular phase of it—organization. I believe that there are many bee-keepers, both East and West, because of some things I have said in print, and because of my remarks in convention and in private conversation, have their eye upon me to learn something about organization, and I look upon this subject as one of no mean importance. Every one of you who are to-day reading the papers and observing the trend of business affairs, understand that organization and co-operation to an extensive degree are being practiced; the great railroad concerns, the manufacturing concerns, and many others, have taken an interest in one another, and in relation to one another are uniting under what is known as trusts or combines. The foundation or idea in all these is the correct, is the proper thing. Two large manufacturing concerns will go together because the two concerns united under one management can be handled more cheaply and more successfully than as two organizations. So it is we are combining and co-operating, and with bee-keepers it is the same thing. And let me give another thought here: All mankind are dependent more or less upon one another; and in these days the disposition is for me to produce one thing, and a neighbor to produce another thing, and so on all along the line, each having his special line of production, becoming an expert in that one thing; and as specialties increase we become more and more dependent. That is the way it is that

the large corporation, or trust, or combination, gets it within their power to oppress those who are not organized. Colorado bee-keepers will recall how, from year to year, I have urged and pressed for organization, not as a monopoly, but as a means of protection, and to facilitate our business: and I am tempted from day to day, and in my private conversation, to recall and point out the work of the fruit organization in Southern California. I know very little about it only by the published reports, principally those given by Prof. A. J. Cook, which you all know has brought about a distribution of the product, putting it in the markets where it is most needed; in short, an intelligent distribution of the product. Now we want to follow those lines; we want to co-operate; we want to produce as specialists, each one of us filling our place in the grand machinery of the whole. Last night some of the speakers referred to the magnificent distances of Colorado, and the one thing, gentlemen, those magnificent distances necessitate is co-operation and united work and effort. We can not, as small producers, ship our product to the market that needs it in less than car-load lots to the same advantage that the extensive shipper can do, and we need an intelligent distribution of our product, which can only be accomplished by one of two ways, either by government management, they doing this business for us, or by co-operation amongst ourselves directly. I am in hopes that this spirit of organization, co-operation and combination that is now taking possession of the business world will eventually reach where I think it ought to reach—the point where the Government will take control of it, and manage it to the interest of all the people, and not to the few who are in the combine. This may perhaps be combatted by some, but the student of business relations and conditions will be forced, sooner or later, to come to this conclusion, that somehow these affairs in this vast country must come under some grand, general agency and be manipulated in that way; and this thought has been enforced upon me more and more of late, and I recall one of the last public speeches, I believe it was made by our lamented President McKinley, in which he said that nations are coming so closely together in these days that old methods are practically out of date. A few years ago it was one nation against another; there was no brotherly feeling, there was no co-operation; but to-day trade relations are such that what destroys or kills one nation is bound to affect every other nation, and trade with it. Now, the principle applies everywhere, and these influences are becoming so general, and so far-reaching, that to-day there must be co-operation not only of the individuals in a community, not only among the people of the State, but State with State, and nation with nation. And when we will so co-operate there will be such a demand for every product as we little dream of. I have contended for years that if there were ten times the honey produced that we now have there would be a better market than there is to-day. Go with me into Iowa, Indiana, Illinois, Kansas, Nebraska—countries where corn and hogs and cattle are the principal products—and there the buyer will come right to your door and buy your hogs and your corn; or, if you choose to load some of them on the wagon and go to town, you will find a market for every day in the week; you can dispose of them any time you haul them to market. How is it with our honey product? You all know that you have to get out on the market; there is no real, established market for honey. I think a few of us have pretty nearly established a market in our communities, but I am speaking in a general sense. Now, our President has outlined for us some of these thoughts, that we are going to keep more bees; we are going to produce more honey; we are going to organize and co-operate; and the community that produces any one line of produce is the community that has a market for that product. That is true of any line, it doesn't make any difference what it is; but the community that has just a little bit of any one thing is the community that has no real, settled market for that product. So we are going to keep more bees, and keep them more in a co-operative way. I would produce extracted honey; another will produce comb honey; and we will follow the thought of specialism more and more as the years go by, and as we follow specialism we are becoming more and more dependent, and as we become more and more dependent upon one another we are compelled to organize and co-operate. I am heartily in smypathy with almost if not every thought that has been put before you in the address of our President.

It was moved by Mr. York, and seconded by Mr. F. H. C. Krueger, that 3 o'clock this afternoon be fixed for the election of the officers, and that it be made a special order of business for that hour. Carried.

(Continued next week.)

Contributed Articles.

Uniting Colonies of Bees in the Fall.

BY G. M. DOOLITTLE.

QUESTION.—Two or three of us who take the American Bee Journal, have some colonies we wish to unite this fall, and we wish you would tell us in that paper one or two of plans for doing this. One of our number says you have written on this subject before, but we cannot find it now. Please give us an article on the subject, and, even if you have written on the subject before, there are many younger readers of the Bee Journal who will be benefited by the same, even if the older ones care not for it.

ANSWER.—In all localities where there is a promise of fall flowers yielding honey, it is generally better to wait till this yield is past about uniting, for the two colonies, separate, will generally rear more brood at this time of the year, and often store more honey, than would be the case were they doubled during the flow, or just before it began. But where there is no prospect of any such yield, as is the case with many localities with which I am acquainted, then the sooner the bees are attended to the better. If your colonies are strong in bees, the question might arise whether it would not pay to buy sugar and feed them, did they not have stores enough, so as to have a greater number in the spring; but where colonies are both light in bees and in stores there is only one correct solution of the problem, which is to unite the bees till all colonies are strong, and then if stores are still lacking they may be fed.

I have two plans for uniting, which I have picked out as the best from the scores of plans which I have tried, the first of which I use on colonies that are quite fair colonies as to bees, so that only two are to be put together, and the second on those which are a little more than nuclei, or where two, three, four, or five, may be united profitably down to one.

Having decided to unite colonies like those first spoken of, I hunt out the poorest queen, if there is any choice, and kill her, when I leave the colonies as they are for from three to eight days, according to the weather and the pressure of business.

When I am ready I take the now queenless colony to the colony having the queen, and select from each hive the frames having the most honey in them, to the number I wish to winter them on, and set them in the hive which has not been moved, alternating them as far as possible so that the bees may be mixed up as much as possible. In moving the colony of queenless bees they are first thoroughly smoked at the entrance, pounding on the top of the hive as smoking, so as to arouse them thoroughly, when they are placed on a wheelbarrow in no gentle manner, and wheeled rapidly to the hive where they are to be united, confining the bees to their hive after smoking, and doing the whole on some dark, cloudy day, or near sunset, when the bees are not flying, as bees are less disposed to take wing at such times, and return to their old location when uniting.

Having the hive filled with combs containing the most honey, I next shake the bees (which are on the remaining combs) off at the entrance, taking one frame from one colony, and the next from the other, and so on, so as to mix all bees up as much as possible. When all are off the combs see that all the bees run inside of the hive, when the work of uniting is done.

Now remove anything and everything which may be left at the old stand where the queenless colony was, so that there will be nothing to look homelike to any bee which may chance to fly back there on the first flight afterward, and no loss will occur from bees returning.

The making of the colony queenless, which is to be removed when uniting, has much to do with the bees not returning, for bees having a queen, and especially queenless bees which have found a queen, are far more likely to adhere to the location of the colony having the queen than otherwise.

The other plan that I use with smaller colonies, requires the taking away of all queens but the one where the united colony is to remain, and this is done, as I said before, that the bees may the better adhere to the place where the united colony stands. In taking away these queens, I take all the combs from the hives but two or three having the most honey in them, the uniting of these colonies being left till the brood has all emerged from their cells. In leaving these two or three combs of honey they are spread about an inch apart, setting them out two or three inches from the side of the hive, so that the bees may all be clustered on these combs, instead of hanging to the sides or any part of the hive.

The hive which is to receive the bees and the combs, and the one having the queen, is also to be prepared beforehand, by taking away all the combs but two or three, the same as with the others, only these are left bee-space apart and close to one side of the hive.

Having all thus fixed, I wait as before for the colonies having their queens taken away to realize their queenlessness, and till a day occurs when it is so cool that the bees cluster together for warmth between the spread-apart combs, something as they do in winter. When the right day occurs, or on some cold, frosty morning, I light the smoker and put on a veil, for when using this plan we cannot use the hands should a stinging bee suddenly come for the eyes.

Being thus prepared, I go to the hive having the queen, and uncover it, giving the bees a little smoke to keep them quiet; and leaving the hive open, so that I can set other frames right in without hindrance, I go to one of those from which I took the queen, blowing plenty of smoke in at the entrance while I uncover the hive, when more smoke is blown over and around the frames, doing all as quickly as possible before the bees become aroused much. Quickly setting down the smoker, I place the two front fingers between the first two frames near their ends, then the large fingers between the second and last frames, while the third and little fingers are placed beyond the third frames, when by closing up the thumbs and all of the fingers, the frames with the bees all clustered on them are lifted out of the hive in a body and carried to the open hive, where they are to stay, and put in it all together in a body, as they were taken from their old home, pushing all up close to the frames of bees that are in this hive.

I now go back and get the smoker, and blow enough smoke on the bees to keep them down, while I arrange the frames as I wish them, when I go to another hive and get another lot in the same way, until two, three or four of the little queenless colonies are all put into this hive having the queen.

If the day is right, and I have worked as I should, I will have done this with scarcely a bee taking wing, which means the loss of none. Should any of these little colonies be so strong that a few of the bees are clustered on the side of the hive, this hive can be taken immediately to the united colony, holding it above it, when with a little smoke used on the colony below to keep them down, these can be brushed down on the frames of the united colony. Having all in and the hive closed, clear away all that looks like home from the vacated stands, as in the first plan, and the work is done.

Both plans are very simple, and accomplish just what is desired, the latter being a little easier where the colonies are small enough so that the bees can all cluster on three combs well spread apart.

Onondaga Co., N. Y.

Condensed Method of Classifying Knowledge.

BY C. P. DADANT.

A very interesting and to me very novel suggestion on bee-subjects, is the arrangement of all bee-journal articles under a classification represented by number, to enable any one rapidly and easily to find all that has been written on any one subject. This comes to me from the Editor of L'Apicoltore, of Milan, Italy, Mr. A. DeRauschenfels, in the shape of a pamphlet, printed in Italy, in very good English. The suggestion is based upon Melvil Dewey's bibliographic system, employing the ten figures of arithmetic for different subjects, and subdividing the subjects *ad infinitum*, by the decimal addition of numbers.

It appears that this idea of the American originator, Melvil Dewey, has been adopted by the Brussels International Bibliographical Institute, and that this Institute has appointed Mr. Vermorel—known the world over by his inventions for automatic spraying for the destruction of fungi and insects, a very able and scientific agriculturist and inventor—to prepare tables on agricultural sciences according to the above-mentioned system. This work was completed and published in 1900, under the title of "Manuel du repertoire bibliographique des sciences agricoles, etabli d'apres la classification decimale."

By Dewy's system the entire human knowledge is divided into ten groups, each represented by one of the ten figures. No. 6 is taken to represent the useful arts. By adding one of the ten figures to this number 6, he again subdivides the arts into ten subjects, as follows:

60 Generalities.	65 Commerce.
61 Medicine.	66 Chemical Industries.
62 Engineering.	67 Manufactures.
63 Agriculture.	68 Mechanical Industries.
64 Domestic Economy	69 Buildings.

Taking the word "Agriculture, 63," this is again subdivided into 10 additional figures, and 638 is meant to represent the subjects of apiculture and sericiculture. The little pamphlet then takes up this subject of bees, and preposes to re-subdivide all questions pertaining to bee-culture in the same manner. It would be too long to go into details, and the reader can understand the system by what I have already outlined.

The principal advantage of such a system would be the ability to classify almost any subject by a few figures, and this of course would enable the student to find promptly the subjects he might seek, referring to classified tables.

I don't know how this system will strike the readers of the American Bee Journal. It certainly has some very good points, but it makes one dream of the possibilities of the future. It has also a funny side. Just think of the possibility of some day classifying all countries, States, counties, cities, and individuals, by a decimal number!

Hancock Co., Ill.

No. 10.—Bee-Keeping for Women.

Cleaning Sections for Market—How to Do It.

BY EMMA M. WILSON.

Of all the bee-work that has to be done during the entire year, I don't think of anything just now that I dislike to do as much, as getting the honey scraped and ready for market, and it is doubtful if there is any work I feel as much like shirking.

It is a hard, dirty, disagreeable job, for all the honey looks so dainty and pretty when the work is done, and I often wonder, as I stand and look at the finished product, if the people that eat it ever dream of the number of times it has to be handled over and over, and the amount of hard work connected with it before it reaches them in all its beauty.

It is for the bee-keeper's own interest to put his honey on the market in as dainty a condition as possible, for its attractiveness will have much to do with making a good sale.

Really good honey, if put up in a slovenly manner, will go begging for a market.

It is not an easy matter to remove all propolis and stain from the sections, especially if the weather is warm, and for that reason it is better to put off getting honey ready for market until the weather begins to get a little cool, if your market will allow of it; but in some cases it might be a loss to do so, for it might be to your advantage to have your honey on the market at an earlier date.

If the work must be done early in the season, do it early in the morning when it is coolest. It will make it easier, as the propolis is brittle and breaks off easily when cool, and is very sticky and hard to remove when warm.

Formerly I used only a case-knife in scraping honey. I had a board just large enough to hold comfortably on my lap, and a little block to set the section on while scraping. I considered 1,200 sections a pretty good day's work.

In the last few years I think we have improved a good deal in our methods of scraping honey. We have not only

simplified and made it a good deal easier to get our honey ready for market, but we have made it possible to have it look a good deal better when done, which is always a satisfaction.

We use the T super, and in emptying use a push-board which forces the sections out in a solid block, leaving them lying on a board bottom up when the super is removed.

We then remove the T tins and slip over the sections a frame very much like a super, only it is shallow to allow the sections to come about an inch above the frame. It is long enough and wide enough to slip over the sections easily. Then it is thoroughly wedged at one side and one end until everything is tight as a drum.

Now with a case-knife, which is kept very sharp, we can quickly and easily, if the weather is cool, remove all propolis from the bottom of the sections of the whole super at one time. It does not take very much more time to scrape the bottom of the whole super than it would to scrape one or two sections. Next, with a small piece of sandpaper we sandpaper the bottom of the sections. This removes all stains from the wood and also obliterates all marks that the knife may have left in scraping, leaving a smooth, pretty surface.

We now pull out the wedges (but not the follower), put a board over the sections, put one hand under the board on which the sections are standing, and the other hand on the board over the sections, and reverse the whole business, leaving the tops of the sections up, wedge them up tight again, and treat the tops the same way we did the bottoms. If there is any difference we are a little more careful in sandpapering the tops, as they show the most.

Now all that is left is the sides and edges of the sections to be done separately. Instead of the board on my lap I use a little table to scrape on, just high enough and wide enough to slip over my lap. It is strong and solid—an ideal little table to work on for many things besides scraping honey. McHenry Co., Ill.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

INVENTIONS AND INVENTIONS.

That is a good idea expressed editorially on page 579. Some inventions do good. Some inventions do no good, but only give an advantage to the person using them first. I suppose we have no right to forbid the latter class of devices, but we can look a little cross at them. Don't ask us to look pleasant when we are compelled to extra expenses just for nothing at all. Then there is another class of devices and plans which do harm, really, but do it to the benefit of somebody's pocket-book. I think we ought to look ferocious in concert at these.

THE BEE-LOUSE AND THE QUEEN.

So the fat bee-louse which sometimes inhabits the queen, is still regarded as in the land of the may-be-so-and-may-be-not, as to how he gets his dinner. Running down to the queen's mouth, and sharing her victuals, doesn't *sound* very reasonable; but may be it's all right—for the louse—and the scientist. Though we set a very "big bug" to observing a little bug, observing Sir Louse for a dozen hours without subjecting the queen to unnatural conditions must be in the nature of a puzzle. Page 579.

HALF-DEPTH FRAMES AND COMB HONEY.

A Texas plan on page 582 is not very familiar elsewhere, I think. (Some half-depth frames first filled to extract and then sections put on.) For a location with a light harvest of inferior honey just before the main harvest of white honey, the method would seem to offer special advantages. On general principles, I don't admire half frames and whole frames in the same hive; but I can see a chance for certain advantages. Getting the queen at work above early, and having the honey itself drive her down, looks like a taking scheme. Good plan if it works. It doesn't appear that any unsealed brood is to be put into the extractor. No kindly word from me for that abomination. In my field I wouldn't want to spare honey to fill a set of half frames before the sections; but in different and just-right conditions it will do, I guess. In so far as one may wish to run for bulk honey, half-depth frames are presumably just the thing.

THE MOUTH AS AN ADVERTISING MEDIUM.

I see that on page 582, man's mouth has a puff as a valuable advertising medium. According to Solomon, as reported in one place, it consumes all the results of labor. If so, it looks as if it ought to turn to and help make a living. Still, there is a place where it says: "In many words there wanteth not sin. And many a good man will earnestly say, my wife and my mouth shall not blow trumpets."

CHARACTERISTICS OF NUCLEI.

It's the right way to do things to have some actual experiments when critics challenge our statements. This is anent Miller and Doolittle, on page 583. I suppose many of us often speak from general impressions, gathered during long years of continual work with bees. I guess that's all right; yet at times it may lead us to say things that will turn up at odds with the first experiment. If, in the style of the landscape-insulting advertisers, the words, "Sometimes and sometimes" could be painted on a big barn so we would have to look at every day, it would do us good. We all know 'em; but somehow they don't even yet ring in our ears loud enough or often enough. It's easy for me to believe that a good lot of bees will often all desert, as Mr. Doolittle says. 'Pears like, in times gone by, I've had 'em do it. And, of course, we believe, also, that Dr. Miller's nuclei survived not only the desertions but an attack of robbers, also. But say, wouldn't an attack of robbers, if made just at the right time, and with sufficient strength and suddenness, stop the desertions, and turn every bee's mind toward defense? And my impression is that after we get above say two quarts, perhaps less, the more bees we put in, the less our prospects of success. The excitement is bigger, and the young bees which do not know the way home have the more guides, and to the ones that can't fly at all the skedaddle looks more fearful. I'm not a queen-breeder, and for many years one great object before me has been to keep from having too many colonies; so, naturally, I haven't much recent experience with nuclei; but my impression is that my bees are somewhere between Dr. Miller's and Mr. Doolittle's in their inclinations when set alone.

QUEENS—DEAD BEES.

And Mr. F. Greiner, who does not deal in queens, has found most of his purchased queens to be good ones. Stick a pin there—just as good a pin as the one we stuck where somebody realized a shocking proportion of worthless queens. As to whether bees die around the hives or at a distance, we must look at our "Sometimes" barn again. Usually the ground around my hives is pretty clear of dead bees; but sometimes there are lots of them. These occasions when lots of dead bees scatter near by I am inclined to lay to a sort of poisoning—bees working on a nectar which is slightly poisonous—buckwheat, for instance. And cool weather at the time will very greatly increase the evil, I believe.

I can back Mr. Greiner that my bees do not leave two frames on each side unoccupied with brood. I run seven frames; and June 1 finds brood in all of them, as a general rule.

And so, in Mr. Greiner's yards, queens reared in ways said to be improper ways live nearly as long as the others. Can swallow the assertion without even a wry face. p. 583.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get them subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Granulation of Syrup—Miller Feeder.

1. In feeding sugar syrup to bees it granulates in the cells of one of the combs. Is this harmful? If so, can it be prevented?

2. Do you find the Miller feeder the most convenient thing for feeding small quantities of sugar syrup to nuclei, or to stimulate brood-rearing in a colony? If not, what do you find more convenient? ILLINOIS.

ANSWERS.—Granulating is bad, because the bees cannot utilize the granules, and it is about the same as wasting so much sugar. Acid in the syrup will prevent granulation—an even teaspoonful of tartaric acid for every 20 pounds of sugar, stirred into the syrup about the time the sugar is dissolved. The tartartic acid is first dissolved in a little water. Another year, however, feed early enough so that no acid will be needed. If you feed early and give as much water as sugar, the bees will furnish their own acid (formic) better than you can do it for them. To be sure, you can have it thin when you feed late, but in that case there is danger that the bees will not have time to evaporate it.

2. For feeding a small quantity each day, I know nothing more convenient. In that case put in sugar enough for a number of days, and then all you have to do is to put in a little water each day. It is less trouble to put in water than syrup.

Queen-Rearing—Propolis in Wax.

I have concluded to try rearing a few queens, so I commenced studying my text-book on the subject, but as usual I run on a snag about every paragraph.

1. In the first method I find "a cell-building colony to be preferred above all others....is one having a queen which it is trying to supersede....one or more will be *found* in a large apiary." Please let me know how the "find" is made.

2. In the next method I am directed to "select....a frame of eggs almost ready to hatch." How can you tell when a bee-egg is "almost ready to hatch?"

3. Some days ago I removed the queen from a colony and pinned two sealed queen-cells from another colony to one of the combs. Two days later I found the cells torn open and the queens destroyed. I also found 3 new queen-cells started. I opened them, removed the embryo queens, and placed in the jelly at bottom some of the smallest larvæ I could find from an Italian colony; but the bees destroyed them also. What was the trouble?

4. How are queens reared now fertilized? I have not seen a drone about my apiary for two months.

5. When a queen is superseded, does the dowager resign peaceably, or does the princess have to fight for her throne? If the abdication is voluntary, what becomes of the old queen? Does she just go off and die?

6. Can you tell if wax is adulterated with propolis, or does it matter? MISSISSIPPI.

ANSWERS.—1. If you look in a hive and find queen-cells started, only one, two, or three in number, and especially at a time when bees are not inclined to swarming, you may consider such a colony as trying to supersede its queen. You will generally find superseding colonies among those with queens quite old.

2. I don't know. But if you find a considerable number of eggs in a comb, and very small larvæ also, you are pretty safe in concluding that there are in the comb eggs nearly ready to hatch. According to some authorities, I believe, eggs that are lying flat on the bottom of the cells are those ready to hatch, while eggs just laid stand on one end.

3. I infer from what you say that you gave the cells at the time of removing the queen. In such a case the bees may be relied on to destroy the cells, for they are not yet aware of their queenlessness. Either wait till the bees are fully conscious of their queenlessness, or else put the cells in a cell-protector of some kind.

You say you *opened* the cells and removed the embryo queens, from which I infer the cells were sealed. In that case the jelly present would be utterly inappropriate for a young larva, if indeed it would suit any larva, and the bees would be sure to cast out the larva of your placing.

4. There can be no fertilization without drones; but I venture to guess that plenty of drones have been in your apiary within the past two months, even if you have not seen them.

5. It is not so very uncommon a thing to find the old queen still in the hive after the young queen is present, sometimes both laying eggs at the same time, so the abdication seems to be peaceable. Just where the queen goes to "shuffle off this mortal coil," I don't know.

6. I think propolis would show in wax by its color. If melted, the propolis would separate from the wax on cooling, and settle to the bottom.

Moving Bees to Cuba.

Bees have done only middling well this year, it has been so wet, and not very warm except at times; about 2 weeks ago we had a few warm nights.

I have about 60 pounds of honey not capped over yet, and the bees are working on goldenrod and sweet clover. The mice got in and destroyed 3 nice colonies last winter. I just had a new queen and placed in one of the colonies and they had built up nicely; that left me with only one colony. I had 2 swarms, the last one in July. The June swarm has done as well as the old colony. I may get a few sections off the last one; I have had 90 off so far from the other two. The fact is, I have been kept so busy this summer I do not get time to see them more than once a week.

I have a notion to go down to Cuba this fall. I have a tract of land at LaGloria, and I want to go down and see it. From all accounts it is a fine country, a good place for bees, and I thought I would take along the few colonies I have, and get started. How would you advise taking them, in a full hive, or only a frame or two of brood with the bees on? Sometimes I think I would divide the brood-frames, and put new queens on them so as to double them up. How would that work? PENNSYLVANIA.

ANSWER.—I'm not sure about it, but incline to the opinion that it will be as well to take them in full colonies, making sure there shall be no lack of ventilation, and then do the dividing and giving fresh queens after you get the bees through.

Questions on Wintering Bees Outdoors.

The time of honey-gathering is nearly at a close, for this year, and the time for preparing our bees for winter is near at hand. The one subject of most practical interest is how to prepare our bees for winter, as we in this country winter out-of-doors; so my questions will be along this line, as there are various ways of preparing for winter. There are some principles involved which I would like to understand. One is this: Will bees go better up or down for their stores in winter?

For wintering in single brood-chamber hives:

Plan No. 1.—Leave the hive on the summer bottom-board; place over the frames thin domestic or burlap; put on an empty super filled with chaff or cut straw; place sticks or cobs under the cloth on the frames to give the bees passage over the frames.

Plan No. 2.—Like the above, with the addition of a T super, empty of course, under the hives, the bottom-board giving space for bees to cluster under their stores.

Plan No. 3.—Giving space of 1½ or 2 inches above the brood-frames; hive on the summer bottom-board 3 inches deep, well packed above. Will they get their stores from below all right?

1. Would it not be an improvement, on all three ways, to put dummies in place of outside frames, and let them extend to the bottom-board, virtually making a double-walled hive, letting them extend up in No. 3 to make the desired space above?

2. Would a super-board be better on top, over the brood-frames, than the cloth? It would give ¼ inch space over the frames; and place the super and packing on it.

3. Should all the honey be in the top brood-chamber, or in both alike?

4. Is there need of any device over the frames of double brood-chamber?

5. Is there need of any packing above a double brood-chamber?

6. Would it do to sow sweet clover, say in October, harrowing it, to be ready to grow in the spring?

7. What is the best way to keep a few extra queens over winter?

8. Please tell me what you think is wrong in any of these plans, and what you think is the best way to prepare bees for wintering out-of-doors.

9. I sowed some red clover last spring; it grew well, but did not bloom well. Will it live over winter, and bloom in the spring?

10. What time in the season does phacelia bloom? and how long does it continue in bloom? MISSOURI.

ANSWERS.—1. I am not sure that I understand your third plan. Bees left to themselves store their honey so that they must work upward or backward to reach it, although they will manage to get it from any direction. If you mean there is an air-space of 1½ or 2 inches above the brood-frames, that would not hinder the bees from getting the honey, as they would probably cluster upon the combs rather than in the air-space, but it is doubtful that there would be any advantage in such space above the frames.

I don't know whether the dummies would be an improvement. The best way to decide the question would be to make the trial on a small scale.

2. Opinions are divided. Some prefer the board with the ¼ inch space over top-bars, while others prefer the cloth.

3. Better have honey in both, the upper one having the most.

4. No.

5. The matter of packing should probably be the same with a double brood-chamber as with a single brood-chamber under the same circumstances.

6. It would probably do well, especially if the ground be made hard by rolling or by tramping of stock.

7. In nuclei, two or more nuclei being kept in one hive separated by partitions.

9. It may live over, and if it does it will bloom; but it may winterkill.

10. I have had no experience with phacelia. It is most praised as a honey-plant and also as a forage plant across the sea, and is said to have been obtained from California. Can any of our brethren from the Golden State inform us about it.

Swarming of Young Queens Reared in the Hive.

In your answer to my question, on page 538, you request me to let you know if I have had any swarms issue in such cases, as late as June. In reply I will say that I had a fine colony of Italians from which I desired to breed. They swarmed June 9, 1902 (and the swarm gave me 100 finished sections this year). I had other colonies which swarmed a few days before, and some a few days after. In order to furnish all colonies with a queen of this particular breed, I cut out all cells from the others and introduced cells from this choice queen. I had five hatch, mate and swarm the past season, under the above circumstances. One queen was not 6 weeks old when she and her colony swarmed out. NEW YORK.

ANSWER.—This seems a plain violation of the rule, and there seems nothing left but to say that, at least in some cases, a swarm may issue with a young queen reared in the hive the current season. Thanks for the information, even if the fact is one to be regretted.

Forming Nuclei.

I notice what you say on page 583, in answering Mr. Doolittle in regard to forming nuclei, the bees leaving the hive and returning home. Now, my experience is exactly the same as yours. I, for some cause, am not troubled very much with swarming, only last July I had the most I ever had, but I killed what queens I could get my hands on in returning prime swarms (which was about half). I could expect when the young queens hatched out to have what you may call after-swarms. The reason for putting back the prime swarms this year was because it was too cold and wet in June for the bees to do anything; and July 1st came in bright, and the weather was lovely from that on, and what honey I would get I knew must be secured in the next 10 days. So I returned all prime swarms. The plan worked to perfection; quite a number of the colonies that I returned, and having failed to get the queen, did not bother about swarming again, but went to work with a will. The plan will be tried further next season.

Now, as I said, I am, as a general thing, not getting the increase desired, without making nucleus colonies in some manner; and as I usually run one-third of my bees for extracted honey, after the last extracting, which is not done very close, I go to all the extracting supers, and in those that have no sealed brood I insert a frame, then in a few hours after the bees have found it above, I break the super off (which is always a hive-body the same as the brood-chamber below), and carry it to a new location, closing the entrance until after dark. When it is opened, and in the morning of the next day, I can notice no bees leaving for home, and am not troubled in the least by having the colony dwindle.

I made several 2-frame nuclei last month, and few bees, if any, returned. I usually make them in the afternoon, close the entrance until dark, then open, and all is well with them. OHIO.

ANSWER.—Your practice is a little different from the usual way of taking bees and brood from a hive containing a normal queen. If you take out of such a hive, directly out of the brood-chamber, two or three frames of brood with adhering bees, and put them in an empty hive on a new stand, I feel pretty sure you will find a goodly number will return to the old stand. But your plan is to put brood over a colony and let the bees collect on it. Why such bees should stay any better on a new stand I do not know, but in a number of instances I have found they did so, although I think I have never seen it mentioned in print before.

Heating Extracted Honey—Market for Combs—Drone-Trap.

1. Is it necessary to heat extracted honey from 150 to 170 degrees, for any other reason than to prevent granulation? Would it keep without fermenting or souring if put up in jars cold and sealed?

2. Is there a market for new combs in Langstroth frames? If so, what are they worth?

3. About the last of July, wishing to go away over Saturday and Sunday, I looked one colony through, Friday night, and cut out all queen-cells; on Monday morning when I looked through the hive, before six o'clock, I found they had swarmed and gone, after starting new cells, but not one was sealed, as I caged all and I knew when the first one was hatched. This same colony had cast one swarm May 24, and the second came out about 2 weeks later, and I returned it. Is this right, to occur so often?

4. If I use the Alley drone and queen trap to cage the queen when the swarm issues, is it not necessary to empty the trap of drones every night? If so, this trap would not be practical to use in an out-apiary, if not visited oftener than every 3 or 4 days, would it? I mean practical to use as a preventive from losing swarms. MASSACHUSETTS.

ANSWERS.—1. Well-ripened honey ought not to ferment or sour if put up in jars cold and sealed, neither ought there to be any trouble if it is unsealed unless it be in a place that is damp or otherwise objectionable.

2. There is no regular market for them, but if you have any to dispose of you could probably find customers by applying to other bee-keepers near you, or by advertising in this journal. I don't know what the price ought to be, and I suppose it would vary greatly in different places, say from 15 to 25 cents each.

3. It is an unusual thing for bees to swarm before they have sealed queen-cells when they are left to themselves; but when they are baffled in their preparations by having queen-cells cut out, they are not so particular about their preparations, and may even swarm without any cells started at all.

4. The Alley drone-trap is successfully used without being seen more than once a week. The suppression of drone-comb within reasonable limits does not leave enough drones present to make much trouble.

The Premiums offered this week are well worth working for. Look at them.

GENERAL ITEMS

Bees Did Fairly Well.

My bees have done fairly well, considering the wet summer we had. From some colonies I have taken 60 pounds, while others had no surplus, but all are well provided for winter supplies. There is no complaint in this vicinity of a short crop.

I can, and always do, sell my honey at home, and get 15 cents per pound. The honey is of good quality, and a light amber color. The bees are gathering honey from smartweed, which is very plentiful this year.

Many colonies of bees have starved to death. Early in the spring I lost one, before I noticed it. I would have lost more if I had not noticed it in time, but sugar syrup brought them through all right.

R. C. SUPPE.

Woodson Co., Kans., Sept. 29.

Bees Still Storing.

Our honey-flow has been very good the past 4 weeks. I have some colonies that will give 125 pounds of surplus honey which I did not expect. I started out with 20 colonies, spring count, but had the worst spring dwindling I ever saw or heard of. They got so weak that I had to double up, which left me 10 colonies, and I did not think that would amount to very much; but in July they commenced to pick up, and they did it fast, too—before I knew it they had the super full, when I put on 24 one-pound supers and they filled them in 5 days. So I had to repeat it. They are storing honey right along, and the prospects are good for more.

P. H. HARBECK.

Lasalle Co., Ill., Sept. 24.

Poorest Season in Years.

Our season for honey has been the poorest we have had for years. We will have perhaps a ton of fall honey (extracted) to sell; that is, after all colonies have a good supply for winter. I have 244 colonies.

O. H. TOWNSEND.

Allegan Co., Mich., Sept. 26.

Cleome, or Rocky Mountain Bee-Plant.

We have raised cleome (Rocky Mountain bee-plant) for chickens and bees for over 20 years, and we raise about two acres annually. It is equal to any grain crop for chickens, and the bees work on it from daylight until dark, when warm enough; from 10 until 3 o'clock, mostly for pollen. We do not value it for pollen (they can obtain pollen from corn and other plants more easily), but believe it to be the greatest of plants for honey. It blooms about the first of July, and blooms constantly for two months, keeping the bees breeding from basswood until heartsease. For beauty's sake nothing can excel this plant for a background cover to fence or hedge in garden work, for when in bloom it is a solid bank of pink, and grows from 4 to 6 feet high.

It is best raised in rows, the same as potatoes or corn, but will grow and take care of itself anywhere, even among the rankest weeds. The seed should be sown by all means (so as to freeze it) in the fall, or on the late snows of winter. I have succeeded in sprouting it in the spring by soaking the seed for several days in water, changing the water every day.

It may be plowed under from 4 to 6 inches deep in the fall, and will force its way through, but I believe the plants are more vigorous if just sown on any loose spot and allowed to work their way under cover with the action of frosts and storms. It may be transplanted the same as cabbage, if taken up when small, though I have changed plants in my garden when over a foot in height. I transplanted, this year, over 3,000 plants.

I have about 10 colonies of bees in Dadant hives, and double supered. They are now filling the second super and all have from 100 to 200 pounds of honey. I will have to extract a few frames from the body of the hive to give them room to rear bees for winter and spring. I just weighed the lightest of 11 Dadant frames of one hive, some weighing 10¾ pounds. In this hive there is not enough brood to fill one frame, nor eggs to cover one's hand. The cold and windy weather has worn the bees down to at least half a colony; they cannot generate heat enough to build comb, and they simply fill every cell with honey. Four days ago I looked at a beautifully egged comb, and it is now beautifully filled with honey. I would rather have had the eggs left in the comb, and the honey in the field.

W. J. LONGSDON.

Ogle Co., Ill., Sept. 10.

[We have some of the cleome seed, and can furnish it by mail, postpaid, for 15 cents an ounce.—EDITOR.]

Practically No Honey.

We have no honey here this year for the first time in ten years. I have 150 colonies of bees, and will have only 500 pounds of comb honey.

I could not get along without the American Bee Journal.

OLIVER CARON.

Red Lake Co., Minn., Sept. 27.

Good Prospects for 1903.

I have never seen the prospects so flattering for a great honey crop as they are now for 1903. The ground all over is covered with white clover—yards, lanes, fields, orchards, in fact all spaces not tilled, have a fine growth. It looks now as if the bee-keeper that is prepared, and has his dish right side up, will get some sweet next season.

I have 75 colonies in good shape, hoping to winter them so they will come out strong in the spring.

W. D. SOPER.

Jackson Co., Mich., Oct. 1.

Eating Boiled Honey.

I can eat honey that has been heated to the boiling point. Now this may seem a small matter, but let me tell you, I once tried to overcome its bad effects by eating half a teaspoonful of honey at each meal for 30 days, and had 90 doses of colic. I accidentally found out that I can eat boiled honey, and eat as much as two large table-spoonfuls at a meal without a dose of colic thrown in; and as I have never seen boiled honey spoken of in this way I hope it may be a benefit to others.

Rain and mud we have in plenty. I wish those people who are suffering with drouth in Texas had a part of it; I would be willing to give them two-thirds of it.

LEWIS LAMKIN.

Woodbury Co., Iowa, Sept. 24.

Suggested Cause of Bees Dying.

I have noticed the letter from J. Luther Bowers, page 518 and 519, giving an account of his bees dying, and suggesting that it is on account of buckeye bloom. I see that Prof. Cook rather holds that buckeye is not the fault, but says that spraying fruit earlier in the season might account for the mortality.

Now for my story: I had about 200 colonies in Placer Co., Calif., and during the time buckeye was in bloom a good many bees died in a good many colonies (not all), and seemed to depopulate them considerably for a time. The trouble seemed to subside after the buckeye ceased to bloom.

Being away at the time the bees commenced dying, the man I had in charge wrote me of the trouble, and said he thought the trouble was caused by ants troubling the brood, as the dead looked more like nearly matured brood. But as soon as I returned and looked over a few colonies I told him I did not think the ants were to blame. I could see a few bees crawling around which had the appearance of bee-paralysis. I thought that was more than

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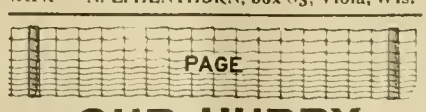

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likely the cause, but they were not much in evidence. Then this caused the said man to call to mind what had been told, by another party (who had tried to keep bees in this same locality), that *his bees always died off considerably during buckeye blooming time.*

It is a great peach-growing center, and as far as growing radishes and lettuce is concerned I don't think there is any to speak of; these crops have a large acreage in Mr. Bowers' locality. There is a great amount of spraying of fruit-bloom, but whether there is any poisonous substance used in the spray I cannot say; so, according to my story, buckeye would be to blame. But I will further say that I had moved about 30 colonies from my Placer County apiary, a little after the first of June, to a new location in Sutter County; this was before mortality commenced, and 2 or 3 colonies were depopulated in the same way in the new location. The new location has no buckeye bloom, and the bees may have been affected by one of the forms of paralysis.

I have just been told that arsenic is used in the spray used in the orchards, but no mortality during spraying. C. D. BROWN.

Sutter Co., Calif.

Poorest Season Known.

We have had the poorest season here I have ever known. No honey has been taken this year. I have 33 colonies, and they have no honey. I have been feeding them for the past month. I hope to have a fall flow, which will supply them for winter. S. F. SAMPSON.

Greenbrier Co., W. Va., Sept. 19.

Thoroughwort or Boneset.

I enclose a specimen of a large weed which is now in bloom here (Sept. 15). It grows in neglected fields, and seems to be a great favorite with honey-bees. What is it?

EAST TENNESSEE.

[The specimen is a Thoroughwort or Boneset, although not the common boneset of our Northern States. It belongs to the great Composite family and will no doubt sustain the reputation already established by this family in sweet beedom.—C. L. WALTON.]

How to Treat Quiet Robbing.

In answer to "Minnesota," page 618, I will say that I had the same experience the past season. My bees swarmed, and the swarm commenced quietly to rob the old colony. My remedy is this: Sprinkle a little flour on the bees that are doing the robbing, in front of the stand robbed, so that you can locate the robbers. Then with any fine spray, spray the robber-bees by opening the hive and spraying the bees; also spray them at the entrance with diluted peppermint essence. The change in scent in the robbers will cause the colony to protect themselves. Also make the entrance quite small, and your trouble is done.

LEONIDAS CARSON.

Trumbull Co., Ohio., Sept. 26.

A Proposition on Queens.

I wish to reply to Mr. Henry Alley's article on page 533, in regard to the queens that be can rear in those little boxes. I have read all of Dr. Gallup's articles on queen-rearing, and all of Mr. Alley's and others, but this one caps the climax. Dr. Gallup has got it down as nearly right as any one, according to my notion.

I rear all my queens in swarming-time; all the queens that do not come up to what I think they should, I kill and replace with good cells from my best colonies.

I work principally for honey, and get it. There was a queen-breeder that kept sending me his catalog, and I was a little "sore" on buying queens, so I wrote to him that I would give him $5.00 if he would send me a queen whose bees would store more surplus honey than any one of my queens. He did not take me up.

I have bought queens from 6 different queen-breeders—the leading ones—and I have

not had one that would come up to those that I rear in swarming-time.

Now, Mr. Alley, I want to make a trade with you for 100 of your queens; I will give you $400 more than you ask for them, if you will guarantee that your 100 queens will produce more honey, reared in those boxes, than my queens that I rear in swarming-time. I will furnish everything, and pay your man $20 per month and board him. Ship your queens through the mail; I will furnish the hives to put them in; I to get all of the honey and the queens if you do not get the most honey. I will take care of them the first year; you can select your man. Now, I think this is the cheapest way to start an out-yard. I will pay for all the hives, foundation, paint and everything, except the queens. I will put out 100 colonies with queens reared in swarming-time, and you are to rear yours in those little boxes; I am to get the honey and queens if your man does not get the most honey.

I have about $800 worth of honey from 120 colonies, spring count; 200 acres in cultivation, and 125 acres in corn under irrigation, and as fine as I wish. I have no queens for sale, nor anything else excepting honey and wax. I just want to start another out-yard, and I take this step as I think it will be a good investment. I don't want any one to write to me; if you do, you will lose your time and postage stamp.

EDWARD SCROGGIN.

Eddy Co., New Mexico, Aug. 28.

Sweet Clover—Wood Sage—Partridge Pea.

Enclosed find what is said to be sweet clover, but it is not according to Dr. Miller's description of sweet clover. Also No. 1 and No. 2; they are purple and pink, and commence to bloom about June 1. The purple one has not yielded any honey this season. It has been so wet that the tubes are much deeper than common. No. 3, the yellow sample, yields pollen and some honey, and commences blooming about July 15, and will continue a week or ten days longer. CHAS. M. DARROW.

Vernon Co., Mo., Sept. 15.

[The specimen you call sweet clover is surely the genuine article. I cannot account for the discrepancy between the Doctor's description and your flower. Consult "The Bee-Keeper's Guide," page 417. I have not been able to identify No. 1, as no flower was on the plant. You might send a sample to Prof. Cook. No. 1 is a Wood-Sage, which belongs to the mint family, and is a good honey-plant. No. 3 is the Partridge Pea, a really valuable bee-plant. In Prof. Cook's Manual, page 429, is a drawing of it.—C. L. WALTON.]

Introducing Queens—Determining Sex.

I wish to give my way of introducing queens. During the last days of June I received a California queen worth $2.50, which I took from the shipping-cage and placed her in another cage, giving her some young bees about three days' old, from the colony to which I intended to introduce her. I corked up the cage and hung it in the hive for one hour, then pulled out the plug.

On July 1 I got another queen from Ohio—a $4.00 one—and introduced her the same way.

On July 2 I received a $5.00 queen from a New York breeder, and introduced her the same as the others.

About Aug. 15 I received a long-tongued queen from an Illinois dealer, and introduced her as follows:

I brought a comb into the house for the purpose of getting young bees to place in the cage with the queen. The bees on the comb began to cry for a queen, and I turned her loose among them. They met her in a friendly manner, shook hands, then treated her to California white honey and escorted her over the comb; crossed to the other side. Then I placed the comb back in the hive, queen next to the wall, with the division-board on the inside of the frame, and left a

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space of one frame; next day I shoved the other frames up, removed division-board, and the queen was all right. This beats keeping them confined in the little shipping-cage for a week.

My introduction of virgin queens is to pick them off of the comb as soon as hatched and let them run in at the entrance; or lift back the corner of the blanket and let them run down from the top. Very often a very young virgin will supersede an old queen, if given in this way, without destroying the old queen yourself.

WHAT DETERMINES SEX?

On page 502 Prof. Cook has an article on this subject. These professors are always getting their foot into something. Look at the argument, read between the lines. First, animals on the earth are sexless. If a male offspring is desired, give the mother a dose of pills, or make her sick some other way, and the desired result will be obtained. If a female is desired, the mother must enjoy good health, and be fat. Wonder if all of our stalwart young men had weakly, sickly mothers, and all our weakly, sick, young American women had stalwart, healthy mothers. If the mother's meal does not digest it will be a male; if it digests well it will be a female. Just as though the food and sperm entered the same channel.

Prof. Loeb gives chemicals instead of male sperm, and the conception is perfect. It seems to me that a man is very closely crowded for logic, knowledge, and science, and even for argument, that will thus reason. I wish to say, with the highest regard to the professors, that I have mastered the science of controlling the sexes of animals, and have good knowledge of plants, and that his theory is not true by any means: and that my art never does fail. I can take his subject (the mother) and give him all the advantages his theory calls for, and will check up a thousand dollars that the results he desires will fail him: or I will bank on another thousand dollars that my art is true, and will develop either sex without a failure. DR. W. A. JOHNSON.

Los Angeles Co., Calif.

Unfinished Sections—Foul Brood.

The honey season is over with about half a crop. It was too wet and cold. There are a good many unfinished sections and plenty of foul brood. FRANK RASMUSSEN.

Montcalm Co., Mich., Sept. 29.

Nature's Way of Rearing Queens.

Regarding the discussion between Mr. Alley and Dr. Gallup (page 519) where Mr. Alley says that a colony will not rear a good queen when there is a fertile queen present, I must say that by my experience he is entirely mistaken; because if that is true I have not a good queen in any of my colonies, for they are all reared that way, by Nature's unchangeable law, which has seemed to be best, with the exception of one which I got April 20, 1901, from an Ohio breeder, and I do not know how she was reared, and yet I have first-class queens, and have several colonies each of which have filled 3 supers of 28 pounds of honey since July.

It was a very unfavorable season, very wet and cold up to the time of basswood flow, and they even worked in frequent drizzling showers.

Four years ago I had a queen whose colony filled seven 24-pound supers—which I can prove by my neighbors—and this queen was reared during swarming-time, and there was a fertile queen present in the hive. I had her almost 6 years, and she was as active and prolific the last year as the first. I still have several of her daughters that are 4 and 5 years old, and I doubt if Mr. Alley has any queen that he can match with her, in prolificness and honey-gathering qualities.

I am 52 years old, and have worked among bees since childhood, and have often wondered how it was possible for Mr. Queen-Breeder to rear good, prolific queens in a nucleus with only a handful of bees.

My father was a capable and experienced bee-keeper in Germany, and his bees brought him up from being a poor man to a well-to-do man, but he never tried to rear a queen by any artificial way, but always followed Nature's way. And now comes Mr. Alley, who claims he can beat Nature's plan. I would like to refer him to a certain man who was always finding defects in Nature and trying to improve on her, and he could not understand why a small acorn could grow on a big tree, and a large pumpkin grow on a slender vine; and on a warm day he laid down in the shade of a large oak-tree to sleep, and as it happened an acorn loosened by the wind fell down, striking him on the head and waking him up. Springing to his feet, he exclaimed, "Oh, how could I have such a foolish idea about Nature, for had it been a pumpkin instead of an acorn that struck me I would not be standing on my feet now."

Here is my advice to beginners; *Rear your own queens* from a good, prolific mother, during the swarming impulse, and you will be certain to have queens perfect in all particulars. Why should we send away for queens when (as I have) we find them to be almost worthless, with the exception of the one I got from Ohio?

Now, if Mr. Alley claims he can rear better queens by the force method, then he must have proof for what he says on page 519, that there is quite a difference between artificial and forced methods in rearing queens, or this statement is false, for if a colony is going to swarm the bees know well enough that the queen leaves too, and that they must have another or they will be destroyed. If it were as Mr. Alley says it is, do it as you please, they would not prepare queen-cells beforehand, and protect them so carefully.

Now, the proofs that I have for my method of rearing good queens are:

1st.—That the old mother's whole duty and care is centered on the welfare of the old colony, else she would lay drone-eggs in the queen-cells, for it is very hard for her to leave her old home.

2nd.—That the old mother deposits the eggs with more care in the queen-cells than in the other cells, for this is proven by the young queens hatching at regular intervals, that is, a certain length of time between them.

3d.—That a queen-cell has a different shape or form inside from any other cell. This proves that Nature means to produce a perfectly shaped, perfectly formed, healthy, strong, and prolific mother-bee.

Now, this is no new method, that Mr. Alley claims that he has in his head (but which he is careful enough not to explain), but an old, old rule, followed by Nature for ages and ages. Let us follow her, too, for she knows what is best. H. B. STUMPE.

Stephenson Co., Ill., Sept. 15.

Very Short Honey Crop.

We have just taken off our honey, and about one colony in five filled a super. Fully one-half are in a starving condition; no increase, and I will commence feeding at once to prepare them for winter.

Last year the Bank here said they paid out for honey, $36,000; this year 1½ cars is all there is. J. F. BROADBENT.

Boulder Co., Colo., Sept. 20.

Not a Heavy Surplus.

Our surplus honey crop will not be as heavy as expected; the wet weather continuing so long, just a few days of good work, then the frosts of the 11th and 12th cut them short. All except my very late swarms go into winter with full supplies. S. P. DRINNIN.

Platte Co., Nebr., Sept. 25.

A Fair Honey Crop.

I am pleased to be able to report a fair honey crop, the first one in three years. I have about 60 pounds of comb and 75 pounds of extracted honey per colony.

Those that run their bees in a haphazard manner, or rather let them run themselves, got very little honey. They don't read the newspapers—don't need to! They know more than the writers or editors do. When we have a good year they all go wild, and

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A Free Trial Proposition.—We desire to call our readers' attention to the free-trial offer made in another column by the Stratton Mfg. Co., Erie, Pa., on the Dandy Bone Cutter. This standard machine has been before the public for 9 years, and many of our subscribers have used it with perfect satisfaction; such as have not now have the opportunity of trying one for 15 days before they pay for it. The Company requires no deposit in advance. All you have to do is to try the Dandy and then decide whether you want to keep it or not. We need not urge upon poultry-raisers the importance of cut green bone as a poultry food; it has the advantage of costing almost nothing and certainly it is one of the greatest egg producers in the world. It will pay you to "get a Dandy."

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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rush into bee-keeping; but the first "off year" knocks them out; they don't last much longer than a certain new bee-paper did.

By the way, it was the most expensive bee-paper I ever subscribed for—$1.00 for three copies. It just lived until grass, then died; but I notice its publishers still run their "ad." in some of the journals, catching more "suckers" like me, I suppose.

J. T. HAIRSTON.

Cherokee Nation, Ind. Ter., Sept 22.

Kuhnia Bees Doing Fairly Well.

I enclose a plant or weed that grows on the roadside or on unoccupied land that attracts the bees in the afternoon until night. Please give a name for the same.

My bees are doing fairly well at present. Central Kansas is free from bee-disease so far as I know. FRED DRESSLER.

Ellsworth Co., Kan., Sept. 17.

[The plant is a composite, and goes by the name of Kuhnia. It is quite common east of the Mississippi River, and is spreading westward. September and October are the best months for bees to work on composite flowers. —C. L. WALTON.]

More Nectar this Year.

This is said to be the banner honey and wax producing county in the State. It's not much now if that be true, for the last two winters have wiped out more than one-half of the bees.

I think it is a fact that there was more nectar this year than in any of my five years' experience in bee-keeping.

The old bee-keepers got but little honey, but the up-to-date man has a good crop.

From 85 colonies, spring (May 15) count, I have increased to 130, and I took 5,000 sections of honey, and the frames have enough for winter. D. C. BACON.

Bradford Co., Pa., Sept. 28.

About a Half Yield.

We had only about a half yield of honey here this season. From some unknown cause sweet clover has invaded this portion of the Yazoo Delta, within the last two years, and is very abundant in the waste-places near my apiary. I consider it the best of honey-producing plants. It grows here in the weeds and grasses where there is no cultivation.

O. M. BLANTON.

Washington Co., Miss., Sept. 29.

CONVENTION NOTICE.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held at the Court House in Freeport, Ill., on Tuesday and Wednesday, Oct. 21 and 22, 1902. All interested in bees are invited to attend.

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, bound in cloth. Price, in cloth, 50 cents; in paper, 30 cents.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cents.

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Bienen-Kultur, by Thomas G. Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 19.—Comb honey is meeting with good demand and the arrivals are easily disposed of at 15@16c per pound for that which grades No. 1 to fancy. Very little of the lower grades are offered, but bring within 2 to 3 cents of No. 1. Amber grades of comb are also scarce, with no buckwheat offerings. Extracted is steady, white bringing 6½@7c; amber, 6@7c; Southern and odd lots of dark, 5@6c. Beeswax, 30c. R. A. BURNETT & Co.

KANSAS CITY, Sept. 27.—The demand for both comb and extracted honey is good, especially comb, at the quotations. We quote fancy white comb, 14@14½c; No. 1 white, 13½@14c; No. 2 white and amber, 13@13½c. White extracted, 6½@7c; amber extracted, 6@6¼c. Beeswax, 22@25c. C. C. CLEMONS & Co.

CINCINNATI, Aug. 30.—The demand for comb honey at present is very good; all shipments are sold quick at 15@16c for No. 1 and fancy. We advise shipping while demand is good and before the western carloads are here. In three weeks from now carloads will arrive, then demand is satisfied, sales harder to make, and prices demoralized. Extracted honey is selling as fast as it arrives, at the following prices: Amber and Southern in barrels, at 5½@6½c, according to the quality. White clover, 7½@8c. Beeswax is scarce at 30c.

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ALBANY, N. Y., Sept. 24.—Honey receipts are light here so far, and good demand for comb honey. We quote light comb, fancy, 16c; A No. 1, 15c; No. 1, 14c; mixed and dark, 13c; buckwheat scarce at 12@13c. Extracted, light, 7c; mixed, 6½c; buckwheat, 6c. Beeswax, 28@30c.

H. R. WRIGHT.

NEW YORK, Sept. 20.—Comb honey is in good demand; fancy white at 15c, and some exceptionally fancy lots may bring a little more. No. 1 sells at 13@14c; amber at 12c; no arrival of buckwheat as yet, the season being late. Extracted firm at 6½@7c for white, 6c for light amber, and 5@5½c for dark. Beeswax firm at 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Aug. 29.—New comb honey is not coming in so plentiful, so far. Whatever has come in, and is fancy water-white, has brought a good price, and sold to stores at from 15@16c. Honey kept over from last year, fancy sells for 14c. The market for extracted is more lively and brings: Amber, from 5@5½c; alfalfa water-white, from 6@6½c; white clover, from 7@7½c. Beeswax, 28c. C. H. W. WEBER.

SAN FRANCISCO, Aug. 20—White comb, 13@14c; amber, 10@12c; dark, 8@9c. Extracted, white, 5¼@5½; light amber, 5@5¼; amber, 4¾@—. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

Not much offering or arriving of any sort. While the market is firm throughout, current values are being better sustained on comb than on extracted, for the reason that the latter has to depend to some extent on outside demand. All the comb honey offering will be required locally. The shipment of comb honey has never proven satisfactory, and the production is in consequence restricted to small compass.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., OCT. 16, 1902.

FORTY-SECOND YEAR No. 42.

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To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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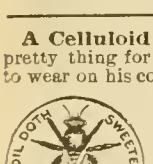
MEMBERSHIP DUES, $1.00 a year.

☞If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one (of the buttons) as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents, or 6 for 25 cents. Send all orders to the office of the American Bee Journal

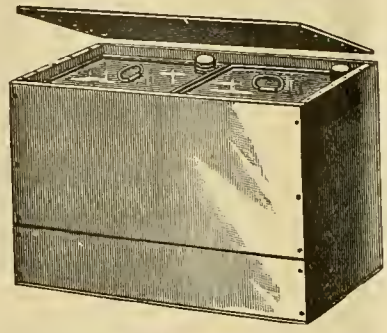
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 9 cents per pound; 4 cans or more, 8½ cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When orderlug, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., OCT. 16, 1902. No. 42.

Editorial Comments.

Uniting Colonies, where necessary, may in many places be done now as well as at a later date—perhaps better. It is better that the bees have a chance to arrange matters to their liking, and get quietly settled down some time before winter sets in.

Heartsease has always been counted an important honey-plant in the low grounds of the Mississippi valley, especially in Nebraska, but farther east it has not been considered of much value. This wet year, however, it has been reported as yielding quite a late harvest in northern Illinois, and perhaps in other parts east of the Mississippi.

Uniting Colonies in Autumn.—F. Volkman, gives in Leipziger Bztg. a plan which may suit those who have the time for it: Lift out the combs of the colony to be united and put them in an empty hive, replacing them with empty combs. After about 15 minutes brush the bees from their combs back into their hive with its empty combs, making sure to remove the queen. In not more than half an hour, the bees will begin to run out of the hive, having discovered their queenlessness, when the hive must be moved close to the hive to which it is desired that the bees shall enter. If it be desired to give the bees to two or more colonies, the hive must be moved accordingly, as soon as each receives its quota.

White Clover, in northern Illinois, yielded nothing in its usual season—June and July; indeed, bee-keepers were at that time feeding to prevent starvation; later on, however, white clover blossoms kept gradually increasing in number, and apparently in condition, for the bees began working on clover to some extent after the middle of August, and were still to be found on clover at the close of September. It is not an unusual thing to see a sort of second crop of white clover, upon which bees do not work, but this year it did not seem so much like a second crop as a continuation of the first, the very sparse early bloom gradually becoming more and more plentiful, showing more bloom in October than in June.

Treatment of Laying Workers.—As a rule, the best thing to do with a colony of laying workers is to break it up, distributing the bees where they will do the most good. If the affected colony be given to a colony with a laying queen, a new colony can afterward be made from the colony thus strengthened, and the outcome will be better than if an attempt had been made to keep the faulty colony intact. Some may like a variation of this plan thus given by W. Hickox in the Rocky Mountain Bee Journal, only it is possible that others may not be so favored as he in having cells always started:

Take two or three combs, containing eggs and brood in all stages of development, from a strong colony, replacing with same number from the queenless one. Put a queen-excluder on top of the strong colony, and upon this place the hive with the laying workers and brood. Queen-cells will be built; when these are sealed place the hive upon a stand by itself, or remove the lower hive to a new location, leaving the top one in its place, as preferred. I have not had a failure so far in saving the colony by this method.

Queen Introduction.—When a new queen has been introduced, the failure to find such a queen several days later, or to find eggs laid by her, is by no means proof positive that she is not present. It is not such an unusual thing for a queen to remain for a week without laying after being introduced, and then to do good work afterward. Speaking on this subject, L. S. Crawshaw says in the British Bee Journal:

For instance, I have introduced by direct introduction—or the "Simmins" method—queens which have been confined in postal cages, and several days have sometimes elapsed before they settled again to lay. This may not be unusual, the ovaries are to be stimulated afresh. Take the case of one young queen, in my own experience. She was a traveled "tested queen," of different race from my own or neighqoring bees, and was introduced at night to a strong colony. She "piped" for some time as though frightened or roughly treated, and an examination three days later failed to reveal any signs of her.

I made an examination on the fifth day, and failed to discover eggs or enlarged cells, and a frame of younger brood was therefore added. On again examining the hive next day I found some addition of eggs to this comb and also in the one adjacent.

Sugar Syrup Granulating.—There is a difference of opinion as to this matter. Some maintain that no precaution is necessary to prevent granulation, while others report that sugar syrup stored in the comb by the bees has granulated badly. All depends on circumstances. If the feeding be done early, and if there be as much water as sugar, or more, the bees themselves will make all the change necessary, and the syrup will not granulate. But this will not do for late feeding.

If thin syrup is fed late, not only will the bees fail to make the proper chemical changes in it, but they will fail to evaporate it, leaving it unfit for winter stores. So the syrup must be made of about the consistency of honey, or about five parts of sugar to two of water. The bees can not be relied on to ripen this so it will not granulate. The addition of an even teaspoonful of tartaric acid for every 20 pounds of sugar will be necessary to prevent granulation.

It is better to feed the thin syrup, providing you feed early—and the early feeding is the better—but if you are unfortunate enough to be late about your feeding, then give the syrup thick, and add tartaric acid. Still better than the acid is adding extracted honey to the syrup, if you are so fortunate as to have that article.

The Weekly Budget.

A. I. ROOT has started an apiary in the woods of Michigan. At latest advices the apiary consisted of two colonies, one being a brushed swarm made from the other, and he was carpeting their entrance with burlap to keep the feet of the bees from slipping.

"THE WABASH VALLEY Poultry, Pigeon and Pet Stock Association" will hold its Sixteenth Annual Show at Evansville, Ind., Dec. 15 to 20, 1902. For any further information desired, address the Secretary, P. L. R. Crowder, Oakland City, Ind.

REV. W. F. CLARKE, some 30 years ago editor of the American Bee Journal, passed away on Sept. 25, 1902. He was for many years a resident of Guelph, Ontario, Canada, at which place he died. We have not received any further particulars, but will likely have them for publication later. Mr. Clarke was a writer of most excellent English, and had more or less to do with bee-keeping for a great many years.

THE GREAT INTERNATIONAL EXPOSITION, to be held at Vienna, from the 4th to the 26th of next April, will comprise six great groups: Living bees, hives, implements, bee-products, books of instruction, and literature. Items to be exhibited in any one of these classes are solicited from all parts of the earth, and especially such items as are little known in Austria. Further particulars can be obtained by addressing: Der Centralverein fuer Bienenzucht in Oesterreich, Wien, I., Schauflergasse 6.

MR. G. W. BELL, of Clearfield Co., Pa., a bee-keeper of considerable prominence in his locality, is a candidate for the State Legislature. It beats all how some bee-keepers do run for office. Some of them have practiced running, with a bee after them—that was before they were real bee-keepers—and they haven't forgotten how to run. As the bee then succeeded in running down the boy, some of those grown-up boys now succeed in running down the office. We say, Go it, boys; and may the right and righteous always win.

MISS PICKARD MARRIED.—Yes, Miss Ada L. Pickard, of Richland Co., Wis., was married on Wednesday, Sept. 24, 1902. Here is the notice that appeared in the Richland Democrat a few days later:

The pleasant farm home of Mr. and Mrs. W. J. Pickard was the scene at noon Wednesday last of a most happy event in the lives of two well-known and worthy young people. At that time Rev. J. W. Irish spoke the words which joined in matrimony the lives of Miss Ada L. Pickard and Mr. Nathan Boggs, both well and favorably known in the city and county. The ceremony was witnessed by a select company of relatives and intimate friends, after which all were regaled with a sumptuous wedding feast.

The happy couple departed Thursday morning for Chicago, where they will make their home, temporarily at least, and where Mr. Boggs will pursue his medical studies. A long list of friends will join with the Democrat in hoping for them the best this earth affords in the way of contentment and prosperity.

On the Saturday following the wedding we received a telephone call from Mr. Pickard (who, we supposed, was alone in Chicago), saying that he would call to see us in a little while. He did so, but along with him came Mrs. Pickard and Mr. and Mrs. Nathan Boggs. Well, weren't we surprised? We didn't think that Ada Pickard would do such a thing without saying a word to the Bee Journal readers! But we will have to forgive her, even if she doesn't promise not to do it again!

We are sure that all will unite in heartiest well-wishes to Mr. and Mrs. Boggs, and congratulations to Mr. and Mrs. Pickard. Wisconsin loses one of its fairest maidens, and apiculture one of its best lady bee-keepers. But this life is full of changes—'twould be very monotonous if it were not thus.

THE ILLINOIS STATE FAIR PREMIUMS.—The following is a list of awards given in the department of bees and honey at the Illinois State Fair held about Oct. 1, at Springfield:

Display of comb honey—1st, C. Becker; 2d, Geo. M. Rumler; 3d, James A. Stone & Son.

Collection of labeled cases containing honey from different flowers—1st, Geo. M. Rumler; 2d, C. Becker; 3d, James A. Stone & Son.

Collection of labeled cases of amber or dark honey—1st, C. Becker; 2d, James A. Stone & Son.

White clover comb honey—1st, James A. Stone & Son; 2d, C. Becker; 3d, Geo. M. Rumler.

Sweet clover comb honey—1st, C. Becker; 2d, James A. Stone & Son.

Basswood comb honey—1st, Geo. M. Rumler; 2d, C. Becker; 3d, James A. Stone & Son.

Display of extracted honey—1st, James A. Stone & Son; 2d, C. Becker; 3d, Geo. M. Rumler.

Honey extracting on the grounds—1st, C. Becker; 2d, James A. Stone & Son.

Frame of comb honey for extracting—1st, James A. Stone & Son; 2d, Chas. Kingan; 3d, Geo. M. Rumler.

Display of candied honey—1st, C. Becker; 2d, James A. Stone & Son; 3d, Geo. M. Rumler.

Display of beeswax—1st, Geo. M. Rumler; 2d, C. Becker; 3d, James A. Stone & Son.

Observatory hive of dark Italian bees—1st, C. Becker.

Observatory hive of Golden Italian bees.—1st, Chas. Kingan; 2d, Geo. M. Rumler.

Honey-vinegar, with recipe for making—1st, Chas. Kingan; 2d, James A. Stone & Son; 3d, C. Becker.

Display of designs in beeswax—1st, James A. Stone & Son; 2d, C. Becker.

DENVER CONVENTION NOTES.—Saturday morning, Sept. 6, gave promise of being a most beautiful day in Denver. So the quartette of Illinoisans (Dr. Miller, Miss Wilson, Mrs. York, and the writer) packed and checked their belongings at the American Hotel, and prepared to spend the day taking the great "Loop Trip" to Silver Plume, 54 miles up in the mountains, at a point nearly 9000 feet above sea-level.

The train was composed of windowless cars, simply openings extending clear to the top of the car, so as to permit an unobstructed view of the mountains and scenery when passing along on the narrow-gauge railroad that wound around through the canyons up, up, and still up. It seemed almost impossible that one engine should be able to pull the train of several cars filled with people up such steep grades. But it did it, with some puffing.

Many, many times, on looking ahead, we would conclude that the railroad track must run right into a mountain, and we must stop. But upon arriving almost there the track would wind around a sharp curve, and on we would go, only to repeat the same thing over and over.

Perhaps the most interesting sight on this trip is the "Loop," where the railroad track extends across a very narrow valley several times after running along the sides of the opposite mountains, and all the time getting up higher and higher. At one point the track winds around so that in crossing the valley it extends directly above where we had been but a few minutes before, thus forming what is known as the "Georgetown Loop," as a place called Georgetown is very near where the "Loop" is found. This town lies in a depression between two mountains, seemingly about a mile wide. In looking down upon it

from the "Loop" point, the town has the appearance of being built in a sort of bowl formed by the mountains surrounding it. It is a typical mining town. Everything must be brought into the place on the railroad, as there is no farming land anywhere near.

All along the sides of the mountains could be seen places where some precious-metal prospector or miner had dug his sort of woodchuck-like hole, and boarded up the front, often closing it with a door.

We think we wouldn't care to live in Georgetown. It's too "hilly" there to suit us.

We reached Silver Plume about 12 o'clock, and remained only long enough to eat lunch.

Silver Plume is simply "no place"—only a mining camp away up on and in the mountains. And it seemed as if there was nothing but mountains in every direction as far as the eye could see.

The return, or downhill, trip was made in a shorter time. The train simply whizzed around the curves. At Georgetown it stopped a few minutes, when we were entertained by three or four small, poorly-clad children who sang one or two Sunday-school songs, one being "In the Dawning of the Morning." It seemed strange to hear such sweet music coming from such forlorn-looking children and in such a God-forsaken place. But it would have done your soul good to have seen those children jump for the nickels and dimes that were thrown to them from the car windows.

The rest of the return trip to Denver was uneventful, except the scenery seemed grander than when first seen on going up. It seemed to grow on one. It is simply wonderful. It was also about the cheapest side-trip we took after the convention, as it cost only $2.00 for the round-trip. We thought it was the most for the least money of anything we struck in or near Denver except it was that excellent banquet (which was free to all from outside of Colorado) with its quarter-pound souvenir sections of honey at each plate. But we didn't know it until after we had eaten all our section of honey near the close of the banquet, that it was to be carried away as a "souvenir." The reader can imagine how we felt with a souvenir inside of us! No doubt there was at least one of those sweet souvenirs carried away and completely invisible, too! But if any one doesn't want us to eat honey, it is always safest not to put it near our plate on the table. If within reach it is almost sure to disappear—or at least a goodly quantity of it. A "quarter section" is just right!

Well, we all reached Denver again about 3:30 p.m. We at once secured our baggage at the hotel, and boarded the train for Colorado Springs at 5 p.m. We arrived there about 8 o'clock, a tired-out quartette, you may be sure. But we found an excellent hotel, and after a good meal all went to our beds and "slept like a log" all night.

And this seems to be a good place to rest our pencil also for this time. Next week we will tell of a restful Sunday in Colorado Springs, and about our Pike's Peak trip on Monday following.

The Denver Convention.

Report of the Proceedings of the Thirty-third Annual Convention of the National Bee-Keepers' Association, held in Denver, Colo., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 646.)

Pres. Hutchinson—The next thing on the program is a talk by Dr. C. C. Miller, on

The Most Hopeful Field for the National Association.

MR. PRESIDENT:—I do not often make apologies—I do not like to; but sometimes I tell the truth when I can't help it. The Secretary wrote to me quite early desiring me to prepare a paper in accordance with the statement on the program. Very promptly I wrote the paper; then I immediately sent it to the Rev. E. T. Abbott, who was to make the response. I sent that paper without making any copy of it, and if I could say he never returned it to me it would have been a great kindness on his part. Unfortunately, Mr. Abbott returned the paper very promptly to me, so I can't make that as an excuse, and I suppose I put the paper away very carefully—so carefully I have never seen it since; but I will give you just a few points. I don't know whether they are the same points that are in the paper, and I don't know whether Mr. Abbott intends to reply to what I wrote formerly, or whether he will reply to what I say to-day, so that if we get all jumbled up don't blame Mr. Abbott. I am the one to blame for it; but as this is the first time I ever made a mistake it must not count this time.

The President has told you about organization, and very properly comes next the question as to what is the best thing for the organization to do? I want to emphasize his paper by saying that the very best thing that the organization can do is to organize some more. There is a whole lot of material that is not organized, and I believe the first and most important thing that can be done by the Association is to organize a little farther and get a new and larger number of bee-keepers. Numbers do count, there is no question about that. If you want to have any moral effect in the way of securing legislation, or doing anything of that kind, if you can say, Here is an organization composed of 5000 members, that counts a good deal more than if you say it is composed of 1000 members.

Now, I am not sure just which is the best way to do to get in a larger number of members. I very much doubt the justice of allowing it to be done so largely as has been done by the bee-journals. They have done a lot of good work in that direction, and they have done it freely. Perhaps they are willing to do it. Well, it is right enough for them to do it if they want to. I am not so sure whether we ought not ourselves, as an organization, and perhaps through our officers, to do something more in that line; and I am not ready to say what is the best way to do that. That is not my business; my business is to tell you *what* ought to be done, not *how* it ought to be done.

The matter of adulteration is an important thing. I suppose if you were

DR. C. C. MILLER.

going to be very strict you might call me to order. I ought to be allowed to mention but one thing, for the question is, "The Most Hopeful *Field* for the National Association," and I am going into several fields, if the fences are not too high to keep me out.

You can hardly strike anything of more importance than the matter of adulteration; but that is a question that has been threshed over pretty well, and it is hardly worth while for me to say much about it.

As to the matter of legislation, I believe that the Association can do a great deal to help in that. Of late

years there has been a good deal done in the way of legislation in a few of the States—only a few of them—and more ought to be done. Take the matter of foul brood alone: without legislation foul brood is going to spread, and spread, and spread, you may count on that, because here is a man who has foul brood in his apiary, and if he can go on with it without let or hindrance from any officer of the law, he may be such a man as to do so, and the thing will spread into the apiaries of his neighbors.

Now, I don't know just how, but I think possibly the Association might do something to help secure legislation in the different States; for, remember this, friends, if you have a good foul-brood law in your State you will be perhaps to a certain degree safe from it, but you will be a great deal safer from it if every State touching your borders has just as good a law; and the man who lives in Colorado ought to be anxious that there should be a good foul brood law in Florida.

Another thing that I think might be done by this Association is, as was suggested to me by one of the members, to originate a propaganda. I am not sure whether I know exactly what the word means, it is a big word—a propaganda to help make the public understand, and feel, and know, that honey is a good thing, and that the use of honey as a sweet is a great deal better for the public health than the use of so much sugar.

Now, I could make a whole, long speech on that, but I have a little human nature about me, and I wouldn't be so hard on you as to give it to you now. I do not believe, however, that the public knows anything, comparatively, about that matter, and the Association could do something, perhaps, towards getting into the public prints information that would possibly be accepted as reading matter by some of the leading journals, and in that way it would be spread abroad throughout the whole land. You know very well that the public press does influence. You know there have been certain statements made that have gone the rounds of the press that have helped to bring down the price of your honey. You know it, don't you? And if a simple statement that has gone the rounds of the press, saying that in Chicago you mix up a mess and get up comb honey and sear it over with a hot iron—if that statement can have an effect to hurt the market a whole lot, then counter statements telling about the purity of honey and the wholesomeness of it might have a good deal of effect in helping the market. The Association may be able to do something in that direction.

Just one more thing, and that is, I believe, that there is not—and I am not sure whether I am not getting over a higher fence than I ought to just now—but I will say that I believe there ought to be a closer connection between this Association and the Government. I believe the Government, through the apicultural investigator, Prof. Frank Benton, is doing a good work. I believe it might possibly do a better work if it had the hearty cooperation of this Association. On the other hand, I believe that this Association might do better work if it were more closely in touch with the work going on in Washington.

Now, there is not the close acquaintanceships that there ought to be, I think, between those two parts. It may be I am wrong; it may be it is a good thing to keep them apart. But I don't believe it. I believe they ought to be close together. I believe I ought to know what Prof. Benton is doing, and I believe he ought to be willing to tell me what is going on, what he wants to do, what he would like to do, what he thinks can be done, and ought to be done; and I don't believe he is averse to letting me know that. I don't know that anybody has ever asked him. (Turning to Prof. Benton.) Prof. Benton, I would like to have you tell me all about what you are doing, and if, at the same time, you would be willing to tell the Association, we will go in together, and it will cost us less to put that information before the bee-keeping public than to have you write a whole lot of letters to each of us separately. I believe there ought to be a whole lot of good work done in Washington, and we, as an Association, ought to be in harmony, and we ought to work together.

Now, if out of all those fields you know the answer to the question, "Which is the most promising field?" you know more than I do I don't know. C. C. MILLER.

Rev. E. T. Abbott then followed with a response on the same subject:

The Most Hopeful Field for the National Association.

Ladies and Gentlemen, and Members of the Association:

I do not know but that I owe the chairman an apology. I do not know that he waited for me, but I got here late. It was a case of sickness. That is the reason I was a little late.

Now, about that lost paper: I will say that I copied it immediately, or I had my helper do it, and stowed it away in a pigeon-hole very carefully to bring to the convention. It is in the pigeon-hole yet; I haven't seen it since!

The question of the productiveness of a field is purely a question of proper cultivation. There are various fields of work that might be productive, if they were properly cultivated. It is not a question of cultivation *only*, but of *proper* cultivation. There may be a number of reasons why a field will not yield proper returns. Every farmer who has studied modern farming carefully understands that there is fertility enough in any soil that has ever been cultivated in the United States to produce a crop; and there is also fertility enough in a great deal of soil that has never been cultivated at all to produce a crop where people suppose now that nothing will grow. It is only a question of knowing how to unlock the fertility and bring it to the surface so that it can be appropriated by the plant that may grow in the soil. Now, this is just as true in our work as it is in real soil-work. Some farmers do not succeed; they do not live in Colorado. All in Colorado succeed; you can tell that by the clothes they wear, and the way the women are dressed. They do not get that kind of clothes out of nothing.

A good friend of mine said, "I would like to know where they got the material to build this city. There is nothing around it; I came across a great desert, or what looked as barren as one; I can not understand it." I said, "If you go back into these hills and unlock their treasures, and understand the fertility which is in these valleys, you would know something more about it. You would know there was fertility some place, that there were fields properly cultivated somewhere, by looking at this well-dressed crowd of people, or those you meet on the streets of Denver, or any place in Colorado."

There are farmers who do not succeed, and there are reasons for that lack of success, a few of which I want to mention.

One is ignorance. There are two kinds of ignorance—one is culpable

REV. E. T. ABBOTT.

ignorance; it is willful, persistent, downright ignorance, of the kind I have no sympathy with; there is some of that in the world. There is not as much of it, however, as we are inclined to think, sometimes. I think that some of the ignorance comes from following only the special line in which one is interested. The mind does not act on a thing until it has something to awaken it to activity in that special channel, or along that special line, so that it comes to pass that there are many people in the country who have no knowledge of a multitude of things because the activities of their brains have never been centered on that special thing. That is true with regard to the subject of honey. That is true with regard to the popular ignorance of the ordinary reporter; I do not blame the ordinary reporter for not knowing anything about bees, any more than I do the young man we heard sung about last night, who sat on the bee, and had trouble with his girl because he did. They did not tell us what the trouble was, but the probabilities are there *was* trouble. Now, I do not blame that young man for not knowing about that bee, because he was more interested in the girl than he was in the bee.

It is possible, however, for the National Bee-Keepers' Association to spread such a lot of information from one side of this continent to the other, or from the middle of it, as shall circle the entire country and do away with a great deal of this ignorance.

There is another kind of ignorance which is simply a lack of knowledge, and a lack of knowledge because there has been no opportunity to get the proper information.

Then, again, there is another thing that makes the farmer not succeed in the cultivation of the soil, and that is indifference. You will see a great, burly, well-built, finely-fed fellow sitting back in an old rocker with a broken arm, his beard as long as it can possibly grow, for it has never been clipped; his hair running a race with his beard, unkempt, and his face dirty, a kind of swaggerish way about him, who says: "Let her go; we have got enough to live on, that is all that a man can get in the world, anyway. Let 'er go!"

There is a great deal of indifference in the world, and this is characteristic of a certain class of farmers. If a farmer just eases back and puts his thumbs behind his suspenders, and says, "Let her go," she will go, and there will not be anything done; there will not be anything accomplished. There is that kind of indifference all over the country with regard to the work this Association has to do.

A gentlemen, who is a judge, came into my office with his brother, an attorney, an intelligent man, who is probably worth half a million of dollars, and who has four colonies of bees. The judge is a member of the National Association, and he said to his brother, "Steve, you better join; they might want to drive you out of the city; the Association will defend you." Just as though a family of lawyers needed any defense!

His brother said, "Well, I would not mind to join, but I do not know as it would do me much good; I guess they will not drive me out with three or four colonies."

The judge said: "You better help the matter along; it is not much; it's only a dollar a year."

But he did not join. He belongs to the class, figuratively speaking, who have their thumbs behind their suspenders, so far as the interests of this Association are concerned, and he is "letting it go." There are a whole lot of people like that, I believe, in the United States, and something must be done to get them into a different way of thinking, if possible.

Then there are other people who say they have so much to do that they have no time to attend to the business of the Association. Now, friends, I tell you frankly, with emphasis and with real earnestness, that I have no sort of patience with a man who belongs to an Association, or is identified with any industry, who has no time to promote its interests. I believe you will not misunderstand me if I say I have no use for a man who will accept a position of trust, or identify himself with any body and neglect the interests of that body. So long as I am a member of the National Association, so long as I am identified with its work in any way, I expect to be present at all its meetings, let the cost be what it may. You can hold it in Denver, in New York city, in Philadelphia, or San Antonio, as I hope you will next year, and I will be there and take my part, and hold up, if possible, my end of the whiffletree. Every farmer knows what that means.

R. L. Taylor—You must have a pass.

Mr. Abbott—Did you ever know a hotel that would accept a pass? Did you ever find a place where you could pay $2.00 a day with a pass? Did you ever know a Pullman sleeper that would carry you with a pass, or a man riding for a week across the continent without sleep, or sitting square up in a common car and sleeping, as nervous as I am?

Mr. Taylor—I have seen railroads that would take passes.

Mr. Abbott—I have, too, and I can get one on almost any railroad in the United States. [Applause.] And I pay for it in value received.

Dr. Mason—I would go, too, if I could get a pass.

Mr. Abbott—My pass is worth money, and I exchange a commodity that is worth money, and of as much advantage to the railroad as the ticket is to me, so I do not owe the railroad anything. I have had the ride and they have had the space, which is worth in the Modern Farmer what they pay for it.

There is great danger in people concluding that the whole field has been worked over and cultivated. Dr. Miller rightly said that the matter of adulteration had been threshed over. Well, it has been threshed over like the boys used to thresh with the old-fashioned flail, leaving most of the grain. When a boy, I cut wheat with a sickle, and pretty nearly cut my shin off—if that is the proper thing to call it in company. Then I began with a cradle, and then I went to binding, and finally we got self-binders, and that let me out. And so we learn.

A man is apt to think because he has cultivated his own field properly that all fields have been threshed over, just as the boy threshed around with a flail and got out but little wheat. The farmer who threshed with a flail got some wheat, and after a while they got headers, and threshers, and they got all the wheat.

We are inclined to think that if we have done all the work in our immediate neighborhood we have done a great deal. Colorado is a big State, and Texas is still bigger, but North America is a great country. Every man who is a thorough gardener goes into his garden and cuts his own weeds. Perchance his neighbor takes pattern after him and cuts his weeds, and then he looks around, and when he sees what he has done he thinks everything is done. He thinks it is the cleanest garden you ever saw, and he swings the hoe over his head and says, "Hurrah boys! We have done it. We have exterminated all the weeds!" But further up the road, a mile or so, the weeds are as high as your head, and over there, in that other State, in that *other* State, and that *other* State, and that *other* Province, Canada, still the weeds grow, and still the work of adulteration goes on.

I will bet four dollars against a pewter spoon that I can go right down in the stores in Denver and find a quantity of adulterated extracted honey today. I am sure there is not a town in Missouri that has two thousand inhabitants in which at least four or five grocerymen have not adulterated honey on their shelves; and it does not come from Missouri. They do not have any in Chicago because they have a strict law there, but the Chicagoans put it up and send it down to Missouri. Then we talk about having covered the field!

I had some experience for a short time acting as General Manager, and I know more about many things than I did before I had this experience. For two or three months I was trying to find out about some things; I was trying to do the work of the General Manager of the National Association, and wrote scores of letters, here and there, and everywhere. I went out after this thing and after that, and I have piles of stuff lying on my desk that tells the story of the multitude of work that there is for a live, energetic, earnest, up-to-date, enthusiastic, go-ahead Association to do.

There is no question about there being a field, my friends; there is no question about there being an opening; there is no question about the work, but it is a question of *where are the reapers?* Where are the men who have the nerve, the determination to do the work, and who will do it with enthusiasm, and without any regard to the results? What we need is men who do not consider the question of dollars and cents. Now, a dollar is an excellent thing. It will get you a good bed in Denver over night, when you are real sleepy, and I tell you that is a fine thing. If you get one like I had last night, right along by the railroad track, you might wish you had your dollar back in the morning. But a dollar is a good thing; it will do a lot in the world; but there are some things dollars will not accomplish, and you can not do them with dollars. The man who goes at the Association work with the thought of the paltry sum that may come to him in dollars and cents as an inducement to do the work will not accomplish much.

There has never been a great reform in this world, or a great work done, without a man who was willing to lay himself on the altar, to sacrifice his time, his life, if need be, to the work. Ever since the day when Jesus of Nazareth cried upon the cross upon the hill, "It is finished!" the work has been *finished* by self-sacrificing and noble people who were willing to die, if needs be, for the work they had in hand; and that is the kind of men we need, and that is the kind of work we must do, if we ever expect to succeed.

The only hopeful field is the field that is *wisely cultivated*, properly cultivated, a field that is cultivated every day, every hour, and during all the months of the year. Every time we go into a new field like this we find new men. I knew there were great things out here in Colorado, but I had no idea there were such men as there are here, that there was as much material to make Association workers as there is here; and, mark me, my friends, we will hear from these Colorado people in the future with regard to the work we have to do, and we will have that much more help to carry on the great work that is before us.

So then, in conclusion, our most

hopeful field is the field that is *worked properly;* and may God give us strength and knowledge to do that work aright.

EMERSON TAYLOR ABBOTT.

(Continued next week.)

Contributed Articles.

Bees and Bacteria—The Spread of Blight.

BY PROF. A. J. COOK.

OF course all bee-keepers are interested in plants. Plants are so important to their success that even from a financial point of view they must take a deep interest in flowers and the plants that bear them. I hope and believe that with most bee-keepers the interest does not stop here. They know how valuable plants are to others and the feeling of kinship to all about us makes us look with interest on whatever touches others' welfare. I believe also that there is almost always an æsthetic influence that is perhaps dearer than all else. Dr. Miller loves and cherishes his roses, and who shall say that their ministration to him is not of a kind most blessed? I need not make any apology, then, if this article, which is the substance of a talk given at a late Farmers' Institute, is strongest on the plant side.

Prof. Waite, of the Department of Agriculture—the same who did such admirable work proving that bees were a necessity in the orchard—has now done equally valuable work in showing that our bees also are chief agents in spreading pear-blight. Prof. Waite has proved this beyond any question. He shows that the micro-organisms which cause pear-blight can only live in a liquid or semi-liquid medium. They therefore reach only to the outside of the plant when carried by some secretion or exudation of the same. The bacteriologist has only to visit the plant with a pin-prick, and then insert the same pin into another plant to carry the disease. The tip of the stigma bears the sticky secretion whose natural function is to catch and hold the pollen. This liquid, or semi-liquid, also domiciles the microbes. The bee in quest of nectar touches the stigma and bears away some of the liquid with the microbes, as it does also the pollen-grains. It then hies away to other blossoms, possibly on other trees. Here it leaves not only the pollen but also some of the bacteria. Thus the inoculation is as certain as in case of the pin-prick.

Again, the tender buds are protected by the thin film of liquid resin, which also attracts the bee, as it is here that it gets its propolis or bee-glue. Without doubt the microbes are also in this semi-liquid secretion, and as the bee flies to other buds for more of the resinous secretion, the inoculation is again performed, and so we understand how pear-blight spreads in the nursery rows and how young trees which have never yet blossomed may die of the blight.

In California, we have another tree which is victimized by what Prof. Pierce, one of our best vegetable pathologists, has determined to be this same germ of pear-blight. The loquat we regard as one of our most desirable fruits, and thus we are as interested in preserving this as our pear-trees. The loquats about us have generally died. The loquat is an evergreen, and is really one of our very beautiful trees. It has a strange fashion of blossoming in mid-winter, and so gives us fruit in April—a time when fruit, from its scarcity, is very much appreciated.

HOW TO DIAGNOSE BLIGHT.

When the leaves of a tree wither, and we suspect that some blight or microbe is robbing it of vitality, or may be life itself, we should first examine the root and see if gopher, squirrel, insect or lack of, or too much, water have not disabled these most important parts of the plant. Without the roots, the plant cannot receive the needed water and mineral elements. Without these the plant will soon be sapless, and the leaves must wither and die. In case the roots are all right we should examine for insects on the leaves themselves, or possibly borers working inside the twigs. Many leaf-eating insects feed only on the chlorophyll layers of the leaves, and thus, while they do not take all the leaves, they do rob them of their working part. The leaves, then, of course, are gray and worthless, and suggest blight. The pear-slug and the canker-worms, which destroy apples, other fruit trees, and elms, are of this kind. What observer has not noticed dead twigs from the presence and attack of twig-borers? It may be the roots are all right, that no insects are preying upon the plant above ground, and yet the plants fall down because of lack of nourishment in the soil. In such case we should apply nitrate of soda, and will be glad to see our plants immediately revive. If such is not the case, we are then sure that the trouble is not from lack of soil-fertility, and we may pretty surely ascribe the damage to the insidious microbe.

WHAT SHALL WE DO ABOUT IT?

The most potent fungicide, or bacteriacide, yet discovered is the Bordeaux mixture, which consists of water holding in solution lime and copper sulphate. The formula I usually give is one easy to remember: 4-4-45. This is easily made as follows:

Four pounds of fresh quick-lime are slaked, put in a bag and hung in enough water to dissolve it. The copper sulphate is dissolved in the same way in other water. When dissolved they are placed together and enough water added to make forty-five gallons. This is a quick cure for many blights. It does not, however, prove effective against pear-blight. We can easily see why. The germs remain inside, almost entirely, and so are not reached by the liquid.

The second remedy for blight is the only one, which, so far as we now know, will aid us in combating this terrible disease of the pear and loquat. It is to prune, and pull, and burn. In case of pear and loquat blight we watched for the withered leaves, which are apt to appear soon after the resinous buds attract the bees or the flowers open their showy petals, and cut them off a generous distance below the blight as soon as they appear—the sooner the better. If we have been so vigilant as to discover the trouble at the first onset, before the microbes are carried far from the bloom, we shall have stopped the blight entirely. It is safe in case we use our pruning-knife or shears, more than once, to disinfect them before each successive cut, by dipping in a dilute solution of carbolic acid. I hope and expect to save my pear and loquat trees by careful attention to this method. The tomato of California suffers severely from a blight. Great watchfulness and careful pulling of any vine as soon as the blighted leaves make any show, will frequently stop the blight at once, and save nearly all our vines.

Another method that is sometimes very successful in treating blight is to change the locality of the plant. The melons in some parts of California are grievously injured by bacteria that work in the crown and upper roots, causing them to rot. If we go but a short distance from where the blight destroyed the previous year and plant our vines, we often will escape entirely, whereas, if we had planted on the old ground, we might have lost all our plants.

The last remedy comes from the fact, as often noted, that some varieties resist blight much more than others. The Bartlett pear suffers terribly from pear-blight, while the Flemish beauty often escapes without harm, and the LeConte is often said to be more resistant. We may then, often, by growing varieties resistant to the blight, be saved from its ravages. In some parts of our region the very valuable English walnut is sttacked with blight. Prof. Pierce has been growing varieties of walnuts very extensively, hoping to secure a variety that shall be utterly blight-proof. I hope that these suggestions may enable our readers to preserve their pet plants from these diminutive but terrible foes.

A word about the size of these bacteria: They are so small that in order to study them well, we must magnify them very highly. We wish to make them look at least half an inch long. Were we to magnify ourselves in like degree, we would stretch up something more than seven miles. The microbes vary in size from six to twelve hundred thousandths of an inch in length.

It only remains to be said that the moving of bees from any section, while it will work terrible mischief in preventing pollination, will probably avail not at all to lessen the pear-blight. We must remember while it takes thousands of visits of insects to pollinate the flowers of a single tree properly, less than a score are necessary to inoculate a tree thoroughly with this blight virus. There are always enough insects other than bees, not to speak of the unowned bees in rock, crevice, hollow trees, walls of houses, or even in holes in the ground, to spread the virus of the blight so abundantly that we can never hope to prevent the spread of disease by keeping the insect away. On the other hand, in case of a large orchard, where thousands of trees are often gathered in one block, it is utterly impossible to secure

thorough pollination except we have apiaries in the near vicinity. I have known several cases of bees working in holes in the ground the present year. Such would seem very poor hives. Have others noticed this?

INTERESTING LECTURE.

Prof. Fletcher, late of the Washington Agricultural College, has perhaps given the most extended and intelligent study to the matter of pollination of flowers that has been given by anybody in our country, certainly if we except Prof. Waite, of the Department of Agriculture. His bulletin on this subject would be a proud monument to any scientist. He was with me at three of our late institutes. I have never heard the value of bees as pollinators, more extolled than they are by Prof. Fletcher. He is soon to leave this coast for the East. It is greatly to be regretted that we cannot keep him among us.

Los Angeles Co., Calif.

The Prevention of Natural Swarming.

BY C. P. DADANT.

SINCE my article on the prevention of increase by returning swarms to the parent hive has been published, I have had a number of enquiries from bee-keepers as to the best method of preventing the bees from swarming. One gentleman in particular says that it is very well to keep down increase by that method, but that it only answers a part of the purpose, as there is all the labor attached to this method that would have to be performed if one wanted increase. He therefore thinks that this method of prevention of increase is lame in its main feature.

I agree to this, and for the benefit of this person and others, I will give our method for the prevention of natural swarming, which we have found successful in an extensive practice of many years on hundreds of colonies. This method has already often been mentioned in the American Bee Journal.

I must begin by saying that it is out of the question to find an infallible preventive for swarming. With the very best management, we must expect from 5 to 10 percent of swarming each year. But the number of swarms harvested by us in 30 years or more of this practice has not been sufficient to keep up the number of colonies in an apiary at the same point, and we have had to resort to artificial increase or by division. This is in itself a very clear proof that our method is successful—as successful, probably, as can be expected of any method that interferes with the natural ways of Nature.

Swarming is very much like emigrating among the human race—caused by a feeling of discomfort—the population of the hive becoming too great for the space at their disposal. Hence, small hives cause more swarming than large ones. For that reason, and many others, we have always favored a very large hive—a hive capable of accommodating the queen in her brood-rearing and the worker-bees in their honey harvest.

Our hive, which is nearly one-half larger than an ordinary 8-frame Langstroth hive, is arranged for half-story supers of which one, two, or more, may be used at one time. We put these supers on the hive with frames full of comb, saved by extracting the honey the previous season, and keep adding room in the shape of empty combs from time to time during the entire harvest. When the harvest is over we extract the honey and return all these combs to the bees to be cleaned up for another season. During the winter these combs are put away to be used again the following year. Thus we have used combs for 25 years, one season after another, for producing extracted honey, and an almost total prevention of swarming has been the result.

But plenty of space is not the only desideratum for the prevention of natural swarming. We must also have other conveniences to make the bees comfortable.

The hive must be well sheltered from the direct rays of the sun. A colony of bees in the busy season is usually overflowing with inhabitants; they hatch daily by thousands, and although there is also a regular daily loss of bees from accidents and the natural wearing out of an insect which is everlastingly at work and on the wing, yet the numbers in the hive increase to such an extent that it is quite difficult for them to keep the interior of the hive well ventilated. If you watch a populous hive of bees on a warm day, and even at night in hot weather, you will see a file of bees ranged in front of the opening, fanning the entrance by a rapid motion of their wings with an incessant roar. These bees are forcing a current of air from one end of the hive to the other. Their work is indispensable, for its cessation only during a few minutes, when the thermometer registers 100° in the shade, means the raising of the inner temperature of the hive to an unsafe point, when the combs are liable to break down, owing to the heat and the weight of the honey combined.

Exposure of the hive to the direct rays of the sun increases the danger and makes it more imperative for the bees to send out a swarm. Thus the able-bodied members of the hive accompanied by the queen leave for a new abode, allowing the young bees to remain and rear a queen. Usually the preparations for emigration are begun several days ahead, by the rearing of queen-cells, and, when the bees leave, the young queen is about to hatch. These preparations, when once made, are likely to be followed by an exodus, even if the apiarist has changed the conditions by enlarging the hive, giving it empty combs, more ventilation, or more shelter. It is therefore advisable to make the necessary changes for the accommodation of the increasing numbers several days ahead of the need.

As soon as the honey harvest comes, the entrance of the hive, if the colony is strong, should be enlarged to its fullest capacity; a hive should never be allowed to stand in a position that will compel its bees to cluster on the outside. The fact of their clustering in that way is an evidence of their ill-comfort, and unless the season is poor, or the crop nothing, it is a good indication of their intention to swarm. It is true that many colonies cluster thus and yet do not swarm, but this is only owing to adverse circumstances.

A great number of drones is also a very frequent cause of swarming. These burly, idle fellows, which are reared by the thousand to provide for the reproduction of the bees by the fertilization of young queens, are very much in the way. They are noisy, cumbersome and lazy, and a colony which is well stocked with them, and otherwise crowded, will swarm more readily than one in which the drones are missing.

There are then three or four absolute requirements for the prevention or diminution of natural swarming, viz.:

A large hive capable of accommodating the most prolific queen.

Enough surplus combs to receive the crop of the workers as they bring honey home from the field.

Plenty of ventilation, enabling the bees to work comfortably inside the hive at all hours.

Shelter against the rays of the sun during the hot hours of the day.

Lastly, a removal of the drone-combs, replacing them with worker-combs in the brood-chamber, early in the season.

As a matter of course all these requirements are more complied with in the management of an apiary for extracted honey, but even when producing comb honey the apiarist can readily see that these requirements, if complied with, will diminish the number of natural swarms, while if the matter is neglected the number of the swarms will be in direct ratio to the greater inconvenience to which bees will be submitted while the harvest lasts.

Hamilton Co., Ill.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

"GOING FOR" THE QUEEN-BREEDERS.

Shall we call him by name when a particular breeder's queens do not come up to our mark? We are not *allowed* to call names much in praise—that's "commercial," free advertising—and one would fain have rules work both ways. On the other hand, scolding indefinitely about the poor quality of queens conveys the impression that it must mean the small fry, and not the most prominent men. Bad to waste good ammunition in that way—and isn't it wrong to increase the difficulties in the worthy small operator's path? So if we have any Davids, young or old, looks like we had better let them name their Goliaths. But, then, Goliath will in return throw his spear. "which is like a

weaver's beam." And ye Editor may be jostled in his chair; and combat-hating readers may take to the quiet and umbrageous woods. Page 584.

CAUSE OF YOUNG BEES DYING.

As to California's hard puzzle, page 587, I would suggest that poisoning *does* sometimes affect numbers of young bees when the old ones show little or no effects of it. Other creatures ditto. Human baby will die from an amount of opium the effects of which the grown man would probably not notice. I'll guess also that the wings were not cut off from the wingless young, but that their development in the cell stopped before the wings were formed. The formation of the wing is about the last thing, I believe. So, as the novelist would say, the plot deepens. Whether poison or disease, it appears to have begun in the cell, allowing the young bees to develop enough to come out, although not allowing them to complete their development. And that, in turn, looks a little more like a constitutional disease than it does like poison. Say a form of microbic disease much like paralysis, but lacking the trembling motions.

THE BEE-MARTIN AND IMITATION FLOWER.

If you should place the nicest little genuine flower that could possibly be found on the top of a post how many bee-visits would it attract in a whole day? It would be lucky if it got one. Therefore, I do not tumble to the theory of W. P. Turner about the bee-martin with an imitation flower on the top of his head. Nothing intrinsically absurd in bees being attracted by a decoy flower and snapped up by a bird. There are lots of such things in Nature. The trouble is, I can't believe Nature would proceed with a scheme which no bird could make a living at. Bees don't rush to posies and the grave in any such style. Page 588.

HANDLING QUEEN-BEES.

H. G. Quirin reminds us, on page 589, that in case we accidentally bump a lot of sealed queen-cells so hard as presumably to cause some of the young inmates to drop, we can reverse them and gently tap them back again. I guess that's so. Will they not, however, drop the second time with such great ease that there's not much in it? Seems to me I would keep those particular cells reversed until the queens emerged. May be Mr. Q. means just that himself.

DENVER'S CONVENTION ATTENDANCE.

Aha! Denver also "regrets to report"—regrets to report that the Millennial attendance of a full convention, like it was going to be when told about beforehand, is not yet here below. Never mind. Lots of things are certainly going to be here below which the sun has not risen upon yet. Page 595.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Feeding for Winter.

1. I purchased 21 colonies of bees August 1, in 10-frame Simplicity hives, with movable frames, comb built on wired foundation. After examining them I found only 5 with sufficient stores for winter, some only containing about 6 pounds of honey. Will it pay to feed such colonies for winter? They all contain an abundance of both bees and brood, excepting two which I shall unite.

2. I have fed them about 150 pounds of granulated sugar. They should each have about 25 pounds of stores for winter. Is it necessary that this be sealed?

3. I have made syrup of 5 parts sugar with 4 parts water, and have reckoned that one pound of this syrup would make ¾ pound of honey for winter stores. Is this right?

When I have fed the required amount to a colony they do not seem to seal it. I leave the 10 frames of comb in each hive. Will they winter on these stores, even though they are not sealed at present? I shall winter them out-of-doors, packed in clover chaff in winter-cases. I have had fine success wintering this way, but have never had to do any feeding before. OHIO.

ANSWERS.—1. It ought to pay big.

2. Five pounds of sugar is considered equivalent to 7 of honey, according to which a pound of your syrup would be equivalent to 7-9 of a pound of honey, making your estimate very close to the mark.

3. It takes time to ripen and seal syrup as thin as you have fed, and the cooler the weather the longer the time. The fear is that you fed too late to allow the bees plenty of time to get the syrup evaporated to the sealing point. It is better to feed syrup even thinner than you gave it, but in that case it should be fed in August or early in September. When fed late, there should be 5 parts sugar to 2 parts water. If the weather should be warm enough in October, the syrup may yet be ripened; and in any case all you can do is to pack the bees warm and hope for the best.

Common Bumble-Bee.

Is the insect which accompanies this letter a bee or wasp?

I found it this morning at the entrance of one of my purest Italian colonies. The workers were dragging her out of the hive. You will see they have pulled off one of her wings. I never saw anything in the bee-line that was so intensely black. While she has some of the appearance of an old queen-bee, yet her color and length of legs are something I never saw in a queen-bee before.

KANSAS.

ANSWER.—The specimen sent is a Bombus. I do not wonder that you do not recognize it; for the bees have stripped it of all its gay plumage, making it a glossy black, and at the same time making its legs appear abnormally long. Its common name is bumble-bee.

Moving Bees Home from an Out-Apiary.

I have some bees to move home from an out-yard, and wish to know whether a screen over the entrance would give sufficient ventilation, if moved on a cool day, say just after frost, or when too cold for the bees to fly. The entrances are the full width of an 8-frame hive.

I think I have moved them with no other ventilation, years ago, but have forgotten. If no screens are needed over the tops of the hives we can get them all ready to load any time, except nailing screens over the entrances. I wish to move my bees home soon. MICHIGAN.

ANSWER.—For many years I have hauled bees to out-apiaries in the spring and back again in the fall, and all the ventilation they have is wire-cloth the full length of the entrance. For some years past the entrance is two inches deep, which makes quite a difference; but then they are hauled sometimes when it is a good deal warmer than the time you are talking about. With weather too cool for bees to fly, a full-width entrance needs to be only ⅜-inches deep.

Bee-Keeping as an Exclusive Business.

I am thankful for the good the American Bee Journal has done me. My partner (an experienced bee-man) and myself started into the business last May, with 47 colonies, in chaff hives. Until the first of August the bees barely made a living. Since then they have produced about 2,000 pounds of comb and extracted honey, 1,500 pounds of the former. The honey in sections has been of high grade, with white capping. I have had a little of greasy or dark capping. Although we have only given our spare time to the bees, we feel amply repaid. I believe this place can be made to produce large crops of honey, and would like to go into the business exclusively.

I can secure a location at the junction of the Kankakee and Iroquois rivers. The surrounding woods are rich in basswood and sweet clover, heartsease, Spanish-needle, and many wild flowers grow in profusion. I feel that with care and attention a large apiary could be made to pay. We have made a good name this year. We have sold all our extracted honey at 10 cents a pound, and could sell more. Our comb honey is about all disposed of. We get 12½ and 13½ cents cash, from local dealers. Kankakee seems to be a

good market. By honest dealings a fancy market can be built up among private customers. Now the object of all these details is to get advice from a man of experience.

Would you advise me to go into the bee-business exclusively? Could I handle an apiary of 250 colonies? I would expect to begin with about 40 or 50 colonies and build up to that number, at the same time adding to my fund of experience. I have enough cash to support myself and wife for two years. My partner and I expect to divide our apiary soon. ILLINOIS.

ANSWER.—It is impossible for any one to say in advance what your success would be. Some men making a success with 50 colonies would make a failure with five times that number, while others might succeed with ten times that number. If your sole aim is the money that is in it for you, the probability is that the same amount of brains and muscle put into some other business would bring greater returns. But if you have a real love for bee-keeping, the happy and healthy life you would live would be worth a whole lot of money, and if you couldn't make so much in a year you would have more years to make it in. So if you have a born taste for bee-keeping, it would in all probability be a good thing for you to follow the plan you have outlined, beginning with 40 or 50 colonies, and increasing till you felt you had reached a fair limit. With increased experience you would very likely have no more trouble with 250 than with 50 colonies, and it would not be a hard thing to hire some help when you felt it was needed.

Wintering Bees.

1. I have read all of the American Bee Journals and in all the remarks on different things it does not tell the space between the hive and the winter casing.

2. I would like to know whether I could put a shallow brood-chamber on the old hive in the spring. The frames are 5½ inches deep. I have the 8-frame Langstroth hive, and I was thinking that if I could put a shallow brood-chamber on the hive in the spring it would give the queen a better chance for the next honey season. ONTARIO.

ANSWERS.—1. In the chaff hive the space is two inches. Where the outside case is separate from the hive, the space varies from two to six inches, according to the different views of bee-keepers, the tendency being hardly as much toward the larger space as formerly.

2. It will be all right to add the shallow brood-chamber in spring, only it must not be put over the story already occupied till that is fully occupied, for it would be a loss of heat to have a story put over before needed. If the added story be placed under, then it does not make so much difference if it is given before needed.

Producing Section Honey—Wintering Questions.

1. It is claimed that the main drawback in the production of comb or section honey (versus extracted honey) is that the bees dislike to build and store in such small boxes as a one-pound section. Therefore, would it not be a good plan to have the bees produce their comb honey in frames (full or half depth, with or without separators, and if separators, only perforated ones), and then transfer the honey into sections, allowing the bees to fasten it in securely, clean up drip, etc.? We would thus have few or no pop-holes, all cells would be sealed, and we would obtain more honey than if the bees had built and stored from the beginning. There would be less swarming; the bees would not have to be crowded, etc. The question is, Would the extra amount of honey obtained, the advantage of not being bothered with swarms (of course there might be a few), etc., pay for the time used in transferring the honey to sections?

2. In regard to out-of-door wintering, do you recommend sealed covers (board or quilt), or porous coverings, the hives in each case to be packed on the top and sides?

3. How large should the winter entrance be?

4. If the bees on a cool night cover only 4 or 6 frames, would you leave in the other 4 to 2 of the 8-frame hive?

6. How much top packing do you recommend? What kind? Cork sawdust seems good, and I have enough of that.

7. Is the pepper-bush (white alder) known by any other name? MASSACHUSETTS.

ANSWERS.—1. I think that something of the kind you suggest has been tried and condemned as unprofitable. It will be an easy thing for you to try it on a small scale for yourself. In some parts, especially in Texas, "chunk" honey is strongly advocated, and many tons of it are sold. The honey is cut out of the frames, packed in cans, and the spaces filled with extracted honey. No separators are needed.

2. The weight of opinion at present seems to favor some kind of packing that will allow an upward passage of air, but in very small quantity.

3. Perhaps the equivalent of three square inches.

4. Yes.

5. Hardly.

6. Two inches of cork sawdust can hardly be beaten.

7. Besides its botanical name—*Clethra alnifolia*—it is also called "sweet pepper-bush."

Phacelia Seed.

Where can I get phacelia seed? SUBSCRIBER.

ANSWER.—I do not know where it can be obtained, unless it be the seed offered among flower-seeds. It may be found in any considerable catalog of flower-seeds, but I do not know whether that is the forager-plant so highly praised. It is, however, a beautiful flower, and bees seem to have a great liking for it.

Superseding Queens.

1. I have 25 colonies of bees into which I introduced untested Italian queens last summer, and I want to know if there is any probability of them being superseded this summer?

2. Do bees as a rule supersede queens that are only one year old?

3. Please explain to me the way they supersede a queen. Do the bees build the queen-cells and then the queen lay in them? or do they build cells around larvæ that are already hatched out?

4. What is the plan of rearing queens from a colony which wants to supersede their queen? Do you take away the cells as soon as they are sealed over and give to queenless colonies, and let the bees build more?

5. Will the bees of the superseding colony kill the old queen before a young queen is hatched and fertilized, or just as soon as she is hatched?

6. I have had a very good flow of honey from bitterweed during the last of July and all of August, until about Sept. 10, and several of my colonies have reared late drones. Is this any indication that they want to supersede their queen?

7. Would not this be a splendid locality for rearing queens, on account of having a long honey-flow, beginning April 10 and lasting until Sept. 10 without stopping? MISSISSIPPI.

ANSWERS.—It would be nothing strange if some of them should be superseded.

2. No, but queens that are introduced are more likely to be superseded than if they had been reared in the same hive.

3. They may be so hostile to the new queen that they never allow her to lay at all, in which case the bees start cells from larvæ present; or they may allow the queen to lay, in which case the queen-cells will be built before the eggs are deposited in them.

4. Yes, your guess is the right one, only the cells may be left any length of time after being sealed till near the time of hatching.

5. If the introduced queen is accepted and allowed to lay, she will generally continue till the young queen emerges and sometimes both queens will be laying together for some time.

6. It hardly means superseding so much as a general feeling of prosperity which allows the indulgence of such luxuries as the presence of drones.

7. Yes, it ought to be a favorable place.

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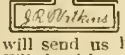

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GENERAL ITEMS

The Aster as a Honey-Plant.

The wild asters are now in full bloom. Bees are just tumbling over each other between showers, gathering nectar from them. The aster is to the bee-industry here what sweet clover is around Chicago. To look about and see the corn standing in the shock, the leaves on the trees turning brown and red, and to hear the crickets sounding the near approach of winter, it seems to one almost like a turning back of the natural order of things for the bees to be gathering such quantities of honey. Truly, the aster is a wonderful plant in its secretion of nectar.

W. W. MCNEAL.

Scioto Co., Ohio, Sept. 30.

A Rather Poor Season.

This has been a rather poor season in this section. There was too much wet weather and cold winds. The fall flow from motherwort, catnip, figwort and heartsease has been quite good, and the bees go into winter quarters in good shape. The prospects for a good season next year have never been better.

Linn Co., Iowa, Oct. 2. JAS. R. SMITH.

Poorest Year in 27.

I have kept bees ever since I was a boy of 16 years, which is 27 years. I have never seen such a poor year as this has been. I had 42 colonies, spring count, increased to 65, and from these I received 492 pounds of honey. The white clover is in bloom yet, but not a drop of honey is coming in.

H. LUEDLOFF.

Carver Co., Minn., Oct. 2.

Better Results than Expected.

A few weeks more will tell the story of another honey-year. No doubt many of the hopes that were builded in the early part of the season have been filled with disappointment. Who has seen a season like this? First too dry, and then too cool; with plenty of brood and plenty of bees in June. With all the ups and downs the season will end better than one could expect.

My bees kept swarming along from June 20 until almost the first of September. The last swarms have nearly filled their hives.

Some fields are white with white clover, and smartweed is almost beyond all records, but it has been too cool to gather to any great extent. The best day for one colony on the scales this fall (Aug. 28) was 8 pounds; and Sept. 7, 5½ pounds.

The prospects are fine for another year. I never saw a better setting of white clover than there is this fall.

How do you do, Dr. Gallup? I am so glad you have taken the floor and told us so many startling facts about queen-rearing. Then, the other side justifying themselves by saying we agree with Dr. Gallup, but have improved these old methods! The experience with the queens one buys speaks louder than all the plausible theories queen-breeders are pleased to write. I never have received a queen through the mail that lived more than one year. They were all fairly good queens. But their daughters were much more prolific, yet hardly any longer-lived.

I think I have one experience that requires a new record. I had a colony that cast a swarm June 20, then a week later I cut out all queen-cells and gave them a frame of brood, from a fine queen I got from Ohio. On that frame they built one queen-cell, a very poor looking cell. I paid but little attention to them, only I noticed, to my surprise, in about five weeks they were getting very strong, and I thought what a difference in the colony of bees. Then about the middle of

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August they cast as fine a swarm as any one could wish to see. I first thought there must be something wrong with them, but on examination I found the hive full of brood from top to bottom and side to side. I never saw a hive so completely filled with brood as this one was. Such queens must have more room. This is one of Dr. Gallup's kind.

"Long-Tongued" advertisements have seen their day; next year's will be "Long Lived Queens." H. W. HECHLER.

Keokuk Co., Iowa.

Bloom but No Honey.

Dandelion, clover, heartsease, Spanish-needle, and some other plants are in bloom, and still no surplus honey. We will have to feed some 20 pounds per colony. Extracted honey is 12½ cents here, and comb 20 cents. I got only 500 pounds from 130 colonies, and it is poor in quality. JOHN C. STEWART.

Nodaway Co., Mo., Oct. 5.

Cleansing Flights in Winter.

I have practiced taking my bees out for a cleansing flight from one to three times each winter for five years. The reason I commenced it was because my cellar was too changeable in temperature. I have not lost a colony except from queenlessness.

C. C. BEERS.

Scotts Bluff Co., Nebr., Oct. 2.

Northeastern Wisconsin Convention

The bee-keepers of northeastern Wisconsin held a convention at the residence of John H. Terens, in Manitowoc Co., Wis., Sept. 20, 1902, and the following officers were elected: President, John H. Terens; vice-presidents, C. H. Voigt and Fred Trapp; secretary, Dr. J. B. Rick; treasurer, John Cochems.

The total number of colonies reported to exist within a circle of 10 miles was found to be 1000. The regular order of business being taken up, the following topics were discussed: Introducing Queens, Wintering and Ventilation, Health and Longevity of Queens, Is the 8 or 10 Frame Hive Preferable? Each subject was discussed with great earnestness, and all present seemed deeply interested, and listened with much attention while each speaker gave his experience and opinion, with reasons for such.

Pres. Terens then appointed a committee of three to draft a program for the next meeting, which committee submitted the following: Wintering and Ventilation, Fred Trapp; Prevention of Absconding Swarms, C. H. Voigt; Marketing Honey, Chas. W. Voigt; Hives Best Adapted to This Climate, J. Cochems; Are Black or Italian Queens Preferable? J. H. Terens; Which is the Most Successful Way of Rearing Queens? L. C. Koehler; Bee-Pasturage, V. Chloupek; Mating of Queens, Dr. J. B. Rick.

The date and place of holding the next meeting was decided to be at 10 o'clock a.m., Nov. 8, 1892, at the residence of John H. Terens, in Mishicott. C. H. VOIGT, *Sec.*

Manitowoc Co., Wis.

Poorest Season in 8 Years.

The honey season of 1902 closed with heavy frosts on the nights of the 11th and 12th. It was the poorest season in 8 years here. The bees, however, got enough for winter, and from about 65 colonies, spring count, I got about 1,000 pounds, mostly comb honey, and an increase of 28 colonies. There would have been a fine crop from heartsease, I think, if the fall had been warm and dry, but we had no steady warm weather here either in the summer or fall, only an occasional nice day or part of day. There is more white clover here now, as a result of the wet season, than ever before; so the bee-keeper's hopes for "next year" will be large and lively.

There was one point in Dr. Gallup's articles on "Rearing Long-Lived Queens and Bees" that I hoped to see discussed further, but failed to bring out fully enough in a former communication; and it has been totally ignored in the discussion thus far. What I have reference to is the claim that the worker

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progeny of an improperly reared and short-lived queen will inherit that defect, and be shorter-lived than bees from a properly-reared queen. I have never been able to notice any difference in the strength of different colonies from a like amount of brood. Where one had a queen that was 4 years old, or afterwards lived to that age, and the other had a queen that gave out at one or two years old, I remember particularly one instance last year: Colony No. 39 gave me the most surplus of any I had, yet they superseded their queen when she was only a month over two years old. If there was any truth in that theory—the longer-lived the queen, the better and stronger the colony ought to be in the spring, other things being equal. But is this the case? Not according to my experience. Let us hear from more of the "jury."

E. S. MILES.

Crawford Co., Iowa, Sept. 30.

Worms Dragging Out Bees.

On page 587, under the head of "Dragging Out Young Bees," that had been crippled, such as parts of wings missing, etc., I will say that it is moth-worms, as I have proved to my own satisfaction. And it will take quick and close observation to catch them. They (the worms) eat a channel through the foundation, or partition, of the comb, and feast on the young brood and pollen. When frightened they go backward or forward, as the case may be. By looking closely, at daybreak, if there are worms in the hive, young bees and parts of bees can be found on the ground in front of the hive. When I see such work going on in my apiary I go for a smoker and gouge, made of small, stiff wire, and hunt the combs good; and I never fail to find them. A. J. ALLEN.

Johnson Co., Ark., Sept. 18.

Filling Combs for Feeding.

It is about 3 years since I got to thinking quite strongly on the question of how to get liquid honey, or dissolved sugar, or mixture for food for bees into honey-comb in some better way than pouring on the comb from a teapot. I hit upon the plan of dipping the comb into the liquid by holding the frame square up and down, and settling it down slowly so as to let the air pass out of the cells at the upper side while the liquid enters the cells at the lower side. When this plan was thought of I took a comb to the water-tank and tried it. I found the experiment quite satisfactory as to the amount that would enter the cells. So I had a tinsmith make a box 3 inches wide, and long and deep enough to take in the largest frames that I have (Quinby) in use, so as not to have to prepare a large amount of food at one time. The feed will not go in as readily as one might suppose, on account of the dryness of the comb, but with slow movement up and down it will go in. The feed should be warm and limber, and not too thick. It is necessary to have some place to hang the combs to drip a little.

A hive with a bottom-board nailed on, that has had bees in it, will generally not leak, and it is handy to carry the frames to where they are to be used. By holding the comb over the box a short time there will not be much drip.

I have thought that a piece of tin large enough to go under about 10 frames, and turned up a little at the ends and outside, might be soldered on this box on one side so that the drip would run back into it, but I have not had it put on yet. It would need a frame above to hold the combs, and legs below. This would make the plant complete.

It is a matter of history that a boy was playing with some pieces of comb by dipping them into water and giving them a whirling throw; hanging on to it he threw out the water. His father seeing this, invented the extractor, but the other part of the boy's play has been overlooked. That was an unsophisticated boy. He had never read a description of how to pour water into a comb, nor had he seen some of the Chicago daily papers with a picture of a person pouring from a teapot into a comb as it appeared not long ago, or as copied into the American Bee Journal. He simply dipped the comb into the water to get it in, and threw it out again.

The question might be asked, what of it? While I have not experimented very extensively with this plan, it is, in my opinion, an easy way by which any colony of bees may be fed, in almost any place, out-of-doors, or in the cellar, at any time or place where they can be fed comb honey or candy.

CALEB L. SWEET.

Cook Co., Ill., Sept. 22.

Dot Qveen-Rais Peesness.

MR. EEITOR NEW YORK:—Ay bean tak American Bee-Paper and ay see on Page five-tirty-tre dat henry alley him don't like Mr. Gallup to ride him on de gallup bout his neuclus Quvens. Crourse, Alley him bean rite. I yust bean dar summer rais me tre Bees Quvens in Neuclus, an dom bean yust som big, and som yellow, som any svorm Quvens. now if Little hives rais little Quvens, and big svarms rais big quvens, Deu Mr Gallup better rais all his Quvens in de barn an dem bean big youst like horses, so he can ride dem to town. Den he can go on a Gallub down de Alley yust a hooping. By ying, ay tank dat bean fine!

Now ay got von Great big chaf hive vat got von owful yellow 5-banded Gold-bug Suvens in it. ay don't lak dom 5 storrys Quvens. Dom bees bean de lasiest bees vot never vos. Dom don't vill make any honies a tol in de up stairs, but dom yust sit around in front and tell storries. Dom dont even got sens nuf to svarm. Vell, ay Tank me self for lung time vat ay shal do ma dem. Shal ay fine dem tre dollars and cost? It don't bean no use, and if ay send dem to vork-hous; dom von't vill vork. So by an by ay git plent spunk an ay take out two frams mit bees and broods, and some broods vot got little eggs, and put in new hive. ay don put new hive on ole place an maw she help me cary big hive vay off. Den next day ven dom sasy fellers go out to fly aroun little to fine some new storries to tell, an dom get hungry and tank dinner bean ready, and comes home, an by ying! dom bean fooled. Dom have only two combs and no quvens. Den dom bean sorry plenty bad, and dom be gin to saw vood for supper, and dom vork hard all day, and dom rais von plenty good suvens, and dom bean al times good now, and dom big chaff hives dom mack new combs an dar quvens he pack him full of eggs for easter, and dom bees dom go up stairs an lay dowu dom plenty big pile of honey, and dom quvens he hund allround down stairs for some more holes to pack avay more eggs for easter, and now ay ben git long fine; ay bin seu for some clover Queens mit long tongs, but ay dont know vat kind of clover hay to feed dis vinter. Say, Mister New York, do you tank dom clover bees vill eat corn-fodder das vinter?

But ay vont to say to mr. Alley ay tank you mak some Plenty big mistake ven you say on Page 519 of american Bee-Paper, you say 90 per sent of Quvens no better as flies. now ay have bean ete some of das pudden, an ay can Profe you bean vay off. ay bean had severl Quvens vot come by post-office, an dome all bean some putty gud; but ay can rais yust some gud Quvens in nuclus, som no body els, if ay bean got gud stok. Ay bean had beeas bout 16 yrs, and ay git some times 150 punds come honey in de up stairs from von hive. Ay tank svarming or nuclus bote bean nature; ven you git better as nature dan you bean most to gut for das vorld. Ay tank sometimes you have to sleep, but nature he never sleep; nature he do every ting, you only help nature, he bean boss—ve bean de hired hand. Ay can ho corn but ay can't make him to grow. Now ay tank you bote bean rong, an you bote bean rite, but ay tank you bote Gallup to fast. Ay tank you bote better clime back in das botes an den trade botes. You make plenty big mistake and git in de rong bote. Ven you bean got in de rite boat den if nature is villing you can have big race, an yust go hooping, an, by ging, de von vot bete can have von of my best Quvens, an ay vill ete all der pudden.

Now a tank you bote bean yust so gud som no body. An you bot rais good Quvens, an you bote is honest yust like me. But das trouble is you bote got each others boats, an

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Retail—Wholesale—Jobbing.

I use a PROCESS that produces 'EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

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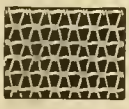
GUS. DITTMER, Augusta, Wis.



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40Etf Please mention the Bee Journal

FOR SALE.

7000 lbs. Extracted Basswood Honey, stored in basswood barrels and kits. Large barrels each holding 330 lbs. net; ½ barrels, 180 lbs.; kits, 33⅓ lts. Prices—7½c per pound in barrels, and 8c in kits, f.o.b. cars at Viola. Cash must accompany order. Sample by mail, 10c. Address, 41A4t N. L. HENTHORN, box 83, Viola, Wis.

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SO MANY

farmers have finally adopted the PAGE FENCE, we wonder why you haven't. It's a good one.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Wagon World-Awheel.

Half a million of these steel wheels have been sent out on our own wagons and to fit other wagons. It is the wheel that determines the life of any wagon, and this is the longest lived wheel made. Do you want a low down **Handy Wagon** to use about the place? We will fit out your old wagon with **Electric Wheels** of any size and any shape tire, straight or staggered spokes. No cracked hubs, no loose spokes, no rotten felloes, no resetting. Write for the big new catalogue. It is free.

Electric Wheel Co., Box 16, Quincy, Ills.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

33Atf Please mention the Bee Journal.

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BUSHELS OF EGGS
follow the feeding of cut bone. The
DANDY Green Bone Cutter
is the simplest, fastest and easiest bone cutter made. Price $5.00 up. Sold on 15 days trial. Satisfaction or no sale. Send for price book and Special Proposition.
Stratton Mfg. Co., Box 21, Erie, Pa.

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dan you bote yump out in de vater, an may be got some little vater on de brain. All gud Quvens is gud. Dont for git dat, but better ones are yust so gud an may be lettle better, and ven you git some of dom better kinds let me knew, and ay vil buy von dat bean de pudden vot ay like.

Vel, gud by, Mister New York, an if ay don't go bak to Sveden may be ay rlte agin sometimes.

My address ven it don't rain is

YON YONSON.

CONVENTION NOTICES.

Chicago - Northwestern. — The executive committee of the Chicago-Northwestern Bee-Keepers' Association have planned to hold the best convention ever convened in Chicago. The date is Dec. 3d and 4th, Wednesday and Thursday. Five eminent bee-keepers have been invited, and are expected to attend. More definite announcement later. Watch for it. Reduced rates on account of the fat stock show, which is held Nov. 29th to Dec. 6th

HERMAN F. MOORE, Sec.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held at the Court House in Freeport, Ill., on Tuesday and Wednesday, Oct. 21 and 22, 1902. All interested in bees are invited to attend.

Cherry Valley, Ill. B. KENNEDY, Sec.

A Far-Reaching Institution.—The J. R. Watkins Medical Co., of Winona, Minn, one of our advertising patrons, does business on a grand scale. Since the founding of the institution upwards of 35 years ago, the spread of the Watkins remedies has been phenomenal. At the present time, the two immense 5-story and three 3-story buildings, erected and devoted to the manufacture and sale of these remedies, give them a working floor-space of two acres. The equipment in the line of power, machinery, laboratories and appliances, is one of the most modern and approved character, affording the most perfect facilities for carrying on the work. Yet comprehensive and modern as their great plant is, it is only in keeping with the demand for its famous products which for many years have been growing in favor all over the country.

But the Watkins Institution is not all comprehended in the home plant. The Watkins wagons are almost as familiar sights in the country as the mail carrier. These wagons are not to be confounded with the ordinary huckster or peddler, but are a part of the great Watkins Company, in charge of bonded employes, carrying and distributing the Watkins preparations and nothing else, directly among the people. People patronizing these wagons are buying at first-hand from the Company. The Company is thus calling in person, not occasionally, but regularly, at the homes of their patrons, securing permanent customers, building still wider for the future and extending trade in the most open and fair, and at the same time, the most effective means that could be employed. Any agreement made with a Watkins agent as to credit, etc., is a contract with the Company itself, and is always faithfully carried out. Any errors that may be made are cheerfully corrected. There is no hazard in dealing with the Company through their own employes. The latest edition of the Watkins Home Doctor and Cook-Book is just off the press. It would pay our readers to send for a copy and get better acquainted with the Watkins idea of doing business. See the advertisement elsewhere, and kindly mention the American Bee Journal when writing.

BOYS WE WANT WORKERS Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

Please mention Bee Journal when writing.

QUEENS.

Quirin—the Queen-Breeder, has 100 Red Clover Queens which must be sold within the next two weeks Price, 75c each; tested, $1.0 : selected-tested, $1.50. Hurry in your order. This is the last time our ad. appears for this season. Address all orders to

QUIRIN—the Queen-Breeder,
42A2t PARKERTOWN, OHIO.

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Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages, 295 illustrations. Bound in cloth. 1902 edition—19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

A B C of Bee-Culture, by A. I. Root — A cyclopedia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 60 cents.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, bound in cloth. Price, in cloth, 50 cents; in paper, 30 cents.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cents.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Bienen-Kultur, by Thomas G. Newman. —This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00.

Dr. Howard's Book on Foul-Brood. —Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. Price, 30 cents.

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That covers the whole Apicultural Field more completely than any other published, send $1.25 to

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FOR HIS

"Bee-Keeper's Guide."

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Oct. 9.—The advance noted in our last quotation has been maintained and there is a very good demand for honey at the present time. No. 1 to fancy white comb brings 15@16c per pound, with the lower grades selling at from 2 and 3 cents less; this includes the light amber. Dark grades of amber sells at about 10@11c, and buckwheat 9@10c. Extracted is steady with white bringing 6½@8c, according to color, flavor and quality; the amber brings from 6@7c; dark, 5½@6c. Beeswax in good demand at 30c. R. A. BURNETT & CO.

KANSAS CITY, Oct. 11.—The demand for both comb and extracted honey is good, especially comb, at the quotations. We quote fancy white comb, 14@14½c; No. 1 white, 13½@14c; No. 2 white and amber, 13@13½c. White extracted, 6½@7c; amber extracted, 6@6½c. Beeswax, 22@25c. C. C. CLEMONS & CO.

CINCINNATI, Oct. 4.—The demand for extracted honey is good at the following prices: Southern and amber sells at 5½@6½c; better grades, 7@8c. Comb honey is scarce; fancy and No. 1 sells on arrival at 16@17c. Beeswax weak at 28c. THE FRED W. MUTH CO.

ALBANY, N. Y., Oct. 14.—Honey is selling well with no accumulation. We quote: White fancy comb, 16c; A No. 1, 15c; No. 1, 14c: mixed, 13c: buckwheat, at 13@13½c. Extracted, white, 7@7½c; mixed, 6@6½c; dark, 5½@6c. Beeswax, 28@30c. H. R. WRIGHT.

NEW YORK, Oct. 10.—We are having a good demand for comb honey and receipts are quite plentiful. We quote fancy white at 15c, and some exceptionally fine lots will bring from 15½@16c: No. 1, white, 13@14c; amber, 12c.

Buckwheat is late arriving, and none has been on the market as yet to cut any figure. We expect large receipts next week, and it will sell at from 10@12c, according to quality and style of package.

Extracted in fairly good demand at 7½c for white, 6½c for light amber, and 5½@6c for amber. Southern in barrels at from 55@65c per gallon. Beeswax nominal at 28c.

CINCINNATI, Oct. 7.—Comb honey is in good demand, the supply is short and very little offered. No. 1 fancy water-white sells at 16c; other grades less, according to quality. The demand for extracted is very active and prices are a little better; amber sells for 5½@5½c; alfalfa from 6@6½c; water-white white clover, 7½@8c. Beeswax, 30c. C. H. W. WEBER.

SAN FRANCISCO, Oct. 1.—White comb honey, 12@12½c; amber, 8@10c; dark, 7@7½c. Extracted, white, 5½@6c; light amber, 5½@5½c; amber, 5@5¼c Beeswax, good to choice, light, 27@29c; dark, 25@26c.

There were comparatively heavy shipments outward the current week for a light crop year. A sailing vessel, with mixed cargo for London, took 315 cases extracted. A steamer in the new German line took 150 cases for Germany Spot stocks and offerings are small, and especially is high-grade water-white honey in limited supply, with market for this description decidedly firm.

Wanted—Extracted HONEY Mail sample, and state style of package and price delivered in Chicago.

John F. Campbell, 53 River St., Chicago, Ill.
34Atf Mention the American Bee Journal.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER.
2146-2148 Central Ave., CINCINNATI, OHIO.
21Atf Mention the American Bee Journal.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no drip cases.

THE FRED W. MUTH CO.
32Atf Front and Walnut, CINCINNATI, OHIO.

SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.
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☞ Our goods are guaranteed of superior quality in every way.
Send for our large illustrated catalog, and copy of
THE AMERICAN BEE-KEEPER,
a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)
☞ W. M. GERRISH, E. Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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1-lb Keystone ... Honey-Jars

These are clear flint glass jars holding just one pound, and the shape of a keystone. They are 7⅛ inches high, and very pretty when filled with honey. The corks can be sunk a trifle below the top, and then fill in with beeswax, sealingwax or paraffin. We can furnish them in single gross lots, with corks, f.o.b. Chicago, at $3.50; two gross, $3.25 per gross; or five or more gross, at $3.00 a gross. These are the cheapest glass one-pound jars we know anything about. We have only about 30 gross of them left. So speak quick if you want them. Address,

GEORGE W. YORK & CO.
144 & 146 Erie St., - CHICAGO, ILL.

$300,000,000.00 A YEAR and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

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The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....

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Hamilton, Hancock Co., Ill.

Honey Wanted.

We can use the following:

Please submit samples of Extracted and quote prices (delivered, if possible.)

State from what source gathered and how soon you can ship and quantity of each grade offered:

1st.—Alfalfa Comb in car lots.

2nd.—Alfalfa Extracted in car lots.

3rd.—Car Buckwheat Extracted or other dark or amber honey.

4th.—Car Basswood Extracted.

5th.—White or Sweet Clover Comb and Extracted in any quantity.

6th.—Comb Honey in Danz. sections. For the latter we will pay a fancy price, as we have a market for the same which we have not been able to supply.

THE A. I. ROOT CO.
MEDINA, OHIO.

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Preparing Bees for Outdoor Wintering.
C. P. DADANT.

Preserving the Flavor of Honey.
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., OCT. 23, 1902.

FORTY-SECOND YEAR
No. 43.

SOME COLORADO APIARIES.

A. Elliott and Apiary, of Larimer County.

Apiary of F. H. Hunt, of Jefferson County.

Agricultural College Apiary, at Fort Collins.

F. H. C. Krueger and Apiary.

THE AMERICAN BEE JOURNAL

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SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents, or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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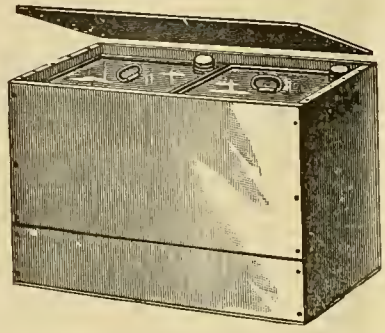
Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 9 cents per pound; 4 cans or more, 8½ cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., OCT. 23, 1902. No. 43.

Editorial Comments.

Time to Bring Bees Home from Out-Apiaries.—At this time of the year inquiries arise as to the right time to bring home bees from out-apiaries, said bees to be cellared at home. It is bad policy to bring them home too early, for there will generally be a few late flowers on which the bees can work, and the bees may just as well have the benefit of this late pasturage by being left at the out-apiary as late as possible. Another reason why it is not best to be in too much haste is that it is not so safe for weak colonies. In a time of scarcity, let a colony be put in a new place, and a careful investigation will be made by marauding bees to see if any weak point of attack can be found. A weak colony that has stood unmolested in an out-apiary for days or weeks, is sure to have its proper measure taken when set down in or near the home apiary, and, if the weather is fair for a number of days in succession, it stands a fair chance of being robbed out. If brought home after the weather has become so cold that only an occasional day offers the opportunity for flight, its chances for safety are much better.

But it will not do to defer the matter till all flight days are over. To be sure, some say there is no objection to hauling bees home and putting them directly into the cellar, but others report loss therefrom, and it looks reasonable that the excitement of hauling the bees home will make them consume an extra quantity of honey, equivalent to a longer degree of confinement. At any rate, it is well to be on the safe side.

So let the bringing home be delayed, only not so late but that the bees will have a chance for a flight before being put into the cellar. In the North the last of October will not be far out of the way.

A Short Crop in England.—D. M. M. says in the British Bee Journal:

"Not only is there no surplus worth naming at the end of this sunless summer, but a very large percentage of colonies will require less or more feeding to preserve them for another season's work."

Although in this country there has been a summer more nearly sunless than usual, yet in many places where a dearth prevailed in the early part of the season a late flow came in most opportunely, and contrary to earlier expectations, the hives are heavy with winter stores.

The Proper Province of a Bee-Paper is sometimes not rightly understood, especially by beginners. Occasionally a subscriber writes to the effect that he has read the American Bee Journal carefully for so many months and has never seen any instruction given upon a certain point in bee-keeping upon which he desires information, there being an implied suggestion that the Journal is not performing its full duty. A bee-paper has, however, its limitations, beyond which it can not go without loss to its readers. It should be clearly understood that its province is *not* to give such information as is considered absolutely necessary for every beginner in order to work in even a moderately intelligent manner. That is the province of the text-books on bee-keeping.

There are, however, constantly coming up more or less new things not in the nature of the case to be found in the text-books, and the bee-paper furnishes the proper field for their exploitation. There are also things given in the text-books about which there may be some point not entirely clear, even after careful study, and upon such points information in the bee-papers can generally be had for the asking.

Instead of being wronged by not finding in a bee-paper the matter found in a text-book, the reader would be wronged if its columns were filled with such matter. For example, every bee-keeper should know that when a queen lays an egg in a certain kind of cell a worker-bee will be produced, there being so many days for the egg, so many for the larva, and so many from the laying of the egg to the emergence of the young worker-bee, and that after so many days it will begin work in the field, etc. If he expects to find these things in a bee-paper, and if he is not disappointed in his expectations, there will be new subscribers within a year who will want the same things repeated; and so it will come to pass that every year there will be much space taken up with things that all but the latest comers will have already learned, and the very ones who have complained at not finding the things desired will be the ones to complain that space is taken up with things already learned.

So it is a real kindness to beginners to urge persistently that they study carefully the text-book, and then let the bee-paper take its proper place as supplementing the text-book.

Stock Eating Sweet Clover.—Some complain that stock will not eat clover. On the other hand, some complain that they eat it too much for the good of the bee-keeper. Somnambulist says in the Progressive Bee-Keeper:

"The great trouble in regard to sowing sweet clover in this vicinity is that the stock will not let it come into flower, they keep it cropped off and only a stray stalk here and there ever reaches the blossoming period."

The Honey Crop in Canada.—Secretary Couse, of the Ontario Bee Keepers' Association, says this in the Canadian Bee Journal:

About a week ago there was mailed to each member of the Ontario Bee-Keepers' Association a circular asking them to report on their honey crop. At this date about one-half have reported; from these reports there can be some idea formed as to the crop in the Province. Twenty-eight report a light crop, six of these say equal to, and 22 say less than the two previous years; 21 report an average crop

nine of these say equal, eight better and four less than the two previous years; 11 report a large crop, better than the two previous years; 50 report their bees in as good or better condition than usual.

One of the very difficult things in the line of statistics is to learn somewhere near the exact size of the honey crop. At best it can only be a guess, at least, until some careful plan of gathering statistics is evolved and carried out. We think that the only way to find out at all definitely is to have the Government take hold of it, and have the honey crop report the same as oats, wheat and corn.

The Weekly Budget.

MR. C. P. DADANT writes us that he is not a candidate for the office of General Manager, and desires his name taken out of the list proposed by Mr. Moore, on page 644. He says he would have neither the time nor the inclination to do the work that is required of such officer.

CLEOME IN THE SOUTH.—M. Wilkins & Co., of Marengo Co., Ala., wish to know whether cleome, or Rocky Mountain bee-plant, will grow in their locality. Also, whether there is any trouble in exterminating it when one cares to do so. Will some one answer who knows?

THE CHICAGO-NORTHWESTERN expects to hold the biggest bee-keepers' convention of the year, on Dec. 3 and 4. And Secretary Moore is planning great things, as will be seen by the following:

SPECIAL NOTICE.

The management of the Chicago-Northwestern Bee-Keepers' Association are making extra efforts to have a grand, good meeting, Dec. 3 and 4, 1902, at the Briggs House, Chicago.

All within the territory embraced by the Association are requested to send questions (to be answered at the meeting) on postal cards to the Secretary immediately. (See address below.) Six eminent bee-keepers have been invited, and five have promised to be present. (Names later. Watch for them.) The questions will be assigned to the eminent people to answer, which will add greatly to the interest of the meeting. HERMAN F. MOORE, *Sec.*

Park Ridge, Ill.

DENVER CONVENTION NOTES.—We spent Sunday, Sept. 7, in Colorado Springs. In the forenoon we attended the preaching service at the First Methodist church, and in the afternoon the Sunday-school at the same place. This church building is the finest we had ever seen, especially the interior arrangement and decorations. It cost about $90,000, and was completed but recently. The organization has a membership of about 800.

From Colorado Springs Pike's Peak seems only about one mile away. We asked a resident, who said it was 16 miles away! A kind of 16 to 1, wasn't it?

Well, Monday morning we set out for Manitou, and a trip up to the Peak on the Cog Wheel Route. By the way, here, in a sentence, is Manitou upon which the Indians bestowed the reverenced name of "Great Spirit:"

A graceful vale encompassed by cathedral hills; pure, invigorating atmosphere swept from snowbound heights, perfumed with piney odors and tempered by a genial sun; clear, crystal waters rollicking in stony beds, and effervescent fountains sparkling and delicious, and offering health and life as well; delightful parks, romantic, winding paths; cool, arcaded nooks; a very world of scenic beauty crowded all about."

Cog Wheel Depot at Manitou.

As we would be utterly unable to do justice to the trip up to Pike's Peak, we will make an extract from a publication which at least attempts to tell something about this "Monument of the Continent:"

Authentic lore of this wonder dates from Nov. 13, 1806, when Major Zebulon M. Pike, a gallant soldier and a daring adventurer, then heading a small exploring party of United States soldiers, sighted the mountain's whitened crest when many miles distant upon the plains. It cost him ten days' marching to reach its base; and, after vigorous attempts to scale it, Pike abandoned the project with the declaration that "No human being could ascend to its pinnacle."

The Manitou & Pike's Peak Railway (familiarly known as the Cog Wheel Route) was completed in the autumn of 1890. As an engineering achievement it is remarkable, and in many respects it is the most wonderful railway in the world. In general terms it is an Abt system cog road, though that conveys little idea of what it really is. The road is within a fraction of nine miles in length, and in this distance it overcomes 1½ vertical miles. It is standard gauge, and with a roadbed that is all in point of excellence that it is possible to make it. Where this is not cut in the solid rock, it is most thoroughly ballasted. On the heavy grades the track is securely anchored at frequent intervals to guard against any possible displacement from the effects of extreme variations of temperature. The mean grade is 16 percent, the maximum 25 percent (a rise of one foot in four), and the sharpest curves are 16 degrees. The outside rails are of the ordinary T pattern, and here the similarity

Half-Way House and Cog-Track.

to the ordinary railroad ends. The T rails serve merely to guide the train and bear its weight. It is the rack rails in the middle of the track upon which the propulsion and safety of the train depends. The rack rails are double every inch of the way from the valley to the summit. They are made from superior Bessemer steel, and are of extra heavy weight on the steeper grades.

The locomotives are an exciting novelty to any one with an interest in machinery. These powerful mountain climbers are constructed with the utmost nicety of detail. There are five of them in the road's equipment, all of the four-cylinder Vauclain type, weighing about 30 tons each. Two double cog wheels underneath the locomotives engage the toothed rack rails. The locomotives are provided with brake power in abundance—hand-brakes, steam-brakes, water-brakes, and automatic brakes.

The coaches are observation cars. Each seats 50 passengers. They precede the locomotives on the ascent—which is an advantage in the matter of observation—and follow them on the descent, thus being always protected by the latter. The two, however, are never coupled together, and the coaches are provided with powerful individual brakes that operate through cogs on the rack rail. By this arrangement the coach can be stopped instantly and independently of the locomotive.

Through scenes of ever-changing beauty, the Half-Way House, which is far from half way to the summit, is reached. It is a rustic mountain hotel surrounded by a

Phantom Curve on the Way Up.

grove of stately pines, and, towering above it, the pinnacled rocks of Hell Gate, through whose portals the train passes on.

There are six stations on the line, besides the terminals, and three water tanks—for the engine is a thirsty monster. At one of these may be strikingly seen the apparent phenomenon of water flowing uphill in an open trough. Another illusion that excites comment is in the grade. Every inch of the road is up; yet, when approaching a moderate from a steeper grade, any one would declare that the track ahead was a down grade.

Quaint beauties, grotesque shapes and strange illusions fairly crowd the way. The conductor shows them all. Among the surprises is a printing-office perched on the mountain side. Here a souvenir daily paper is issued with the news of Pike's Peak—the names of its visitors, illustrations, descriptions, etc.

The climbing is unceasing. Ere long the scene expands. The verdured hills shrink back and leave the big, bleak peak a towering monument. The trees desert the landscape, and groups of stunted aspens shiver in the breeze. Grand vistas open everywhere. A sense of awe transcends that of delight.

The scenes of near-by interest now are gone. Rocks, gaunt and jagged, only line the way. The train now gains in elevation rapidly. The air grows chill; windows must be shut and outer wrappings donned. Away below—itself high in the hills—is spread out like a mirror the crystal, placid Lake Moraine, about whose shores tradition weaves some thrilling legendary tales. Thick, billowy clouds—unless the day be strictly fair—float far below. In the early season snow is everywhere, and forms some strange effects. The opening of the road in the spring involves cutting through enormous depths of snow and ice. The locomotive labors sturdily and heroically on; and presently, and quite unexpectedly, the train halts on the Summit, and Colorado is spread below.

And that magnificent, sweeping view! How futile is description! Here is sublimity; here is immensity incredible! There, to the west, stand a thousand towering peaks in spotless white—majestic, beautiful awful! On the east a mighty ocean of plain, superb and placid, stretches infinite. The eye is strained, the senses dazed, in grasping the proportions of that stupendous sea. And the sun shines golden on its glimmering sands, while purple shadows wander here and there beneath the shifting clouds.

Aroused at last from awesome contemplation, there are interests of the summit that must not be overlooked. Upon the top of the new Summit Hotel is a steel tower, and here is on duty a powerful telescope through which the gorgeous landscape may be studied in detail. Eighty miles away to the north Denver can be recognized by the telescopic aid; to the south, Pueblo (the Pittsburg of the West) crowned by the smoke-clouds of its furnace fires; to the west, Cripple Creek, Victor, Goldfield, Independence, and the dozen lesser towns of the busy Cripple Creek gold-mining district. Manitou peeps out from its nest at the eastern base of the mountain; and, beyond, Colorado Springs lies like a vast checker-board on the border of the plain. Colorado Springs is 16 miles distant, as a bird would fly; yet so near does the telescope bring it to the observer, that signs on the stores may be read.

The top on the peak comprises several level acres thickly strewn with big rocks that are principally in cubes and other rectangular shapes. One might easily imagine it to be the scene of some Titanic building project—the materials all assembled but construction abandoned.

The Bottomless Pit and the Abyss of Desolation are great shuddering rents in the mountain, into which the sun never finds its way, and where the snows of centuries lie in unconjectured depths.

The Summit Hotel is a very substantial, commodious and comfortable building, and it furnishes entertainment for the many pilgrims that remain over night to view the glories of the sunrise. Sunrise excursions, which are run weekly in the latter part of the summer, have also become very popular, sometimes the entire equipment being required to handle the crowds.

Within the hotel building is a Western Union office, the highest telegraph station in the world; also a lunch-room and souvenir store.

The locomotive blows a warning note; a photograph is made of the passengers grouped about the train; the time is up; the conductor says his say.

And then they come down.

Yes, we all came down again, after the most wonderful railroad ride we ever took. We shall never forget it. And yet we would not care to repeat it. Once is enough. The next time (if there should ever be a next time) we hope to *walk* up. Many go up that way. But it must be a great climb!

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Denver Convention.

Report of the Proceedings of the Thirty-third Annual Convention of the National Bee-Keepers' Association, held in Denver, Colo., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 664.)

Pres. Hutchinson—Is there some one else who has some views to advance upon the subject before us?

Mr. York—Dr. Miller has made the suggestion, in his address, and I, for another, would like to hear from Prof. Benton.

Prof. Benton—I am not an eloquent speaker by any means, and I can tell you only of a few facts merely in a plain, simple way.

The Government and Bee-Keeping.

I was appointed, after having been abroad some years in private work entirely, to undertake to do something for the apiarian industry of the country at the United States Department of Agriculture. The first proposition, perhaps, on which my services were demanded, was to undertake to secure from the East Indies and China the race of bees existing there; there were, however, a number of technicalities in the way of taking up that work at once, and it was shelved for the time, and it rests there still, I am sorry to say, because I think it ought to be undertaken. It will come forward, however, in the future.

Now, meanwhile, there were various things that could be done, and the Department thought most of all that there were in this country large numbers of people that were interested in apiculture, but knew nothing of it, or how to get at it, or how to get at the information; in fact, there were many people who did not know that there were works on apiculture that could be had readily; they did not know how to begin the business, therefore they commissioned me to prepare one or two little pamphlets on the subject which should connect those people that were really on the outside track with the industry itself. I did that work, and it has proved acceptable, I think, in general since; those publications have gone through many editions, and are constantly called for, more, in fact, than the law has permitted us to issue, and there are daily calls for that information.

Now, a great deal of the work, since I have been connected with the Department, has been to answer inquiries from just this class of people. We get daily queries from different portions of the country, from your far West and from the East and South. One man wants to know which is the best race of bees adapted to his locality; still another man asks what honey-producing plant he should put out in his neighborhood; and he asks a specific question, perhaps. To all of these, to each and every one, I have to give some reply, the best information I can obtain concerning it, and as you know this is such a wide country, all kinds of climates from Maine to Southern California, from Minnesota to the Gulf States, from the Atlantic to the Pacific, and all manner of conditions and combinations occur. Each one must have, then, a special reply.

Now, when it comes to the matter, for instance, of bee-forage, I had just the other day an inquiry from a man in Minnesota, who asked what plant he should put out on the shore of a lake where the water had receded and the ground was but a foot above the level of the water, and had grown up with swamp-grass, and he didn't know what would grow there that would blossom to fill in a gap in his honey crops.

Now, in order to answer just such questions, my proposition has been, and we are doing that work, collecting information concerning every known honey-producing plant, its area, the soils that that plant may be found on, where it will thrive, then mapping these areas where the plant is found naturally, and setting down the amount of blossoming, and determining what crops could be cultivated to fill in the gap in any given locality, so that with the outlined maps filled in with the areas of the leading honey-producing plants, we are able to give an opinion, and say such and such plants are common; we know just what a man's honey resources are when we locate him, and we know what may be cultivated to advantage.

We get a great many inquiries about bee-diseases, and people ask also what they can do towards securing State Legislation, and we tell them what has been done in other States, and what measures seem to us most advisable to adopt with the laws covering that. There is foul brood, and then also the adulteration of honey. I don't know that we have sufficiently attempted to influence legislation in favor of laws governing the adulteration of honey, so far as at least requiring that honey should be labeled and sent out under its own name; and I have co-operated with the National Pure Food Congress, which has assembled in Washington, and have given information to members of congress that were on the committee also on Pure Food Legislation.

The Department, on my recommendation, has imported various races and strains of bees, the bees of distant Cyprus, West Austria — Carniolans, known as very gentle bees. It has also imported about twice the number of Italians than any of the other races, because I conceive many of the Italians brought to this country are not of the preferable strain, but we should have bees from the more northern districts of Italy, and those bees have been sent to various experimental stations that were prepared to do something with apiculture, and to leading bee-keepers in different parts of the country who were competent to test them and render good opinions, and who were willing also to rear queens from this stock and sell them at a reasonable price to bee-keepers. In that way we reached a larger number than we could by attempting to breed queens and make a general distribution, and for my own part I have never recommended such a general distribution of queens as there has been of seed at the Department.

I have been testing, and have been given time by the Department to test all known systems of rearing queen-bees, to determine what seemed the most practical, simple and easily applicable method, and that by which we could produce the largest number and best queens with the least expenditure. In connection with that I think I had the honor of suggesting the first removable queen-cells that could be used over and over. Others have taken that up and developed it in a commercial manner. I think since that the suggestion was brought forward at that progressive bee-keepers' society, known as the Ontario County, N. Y., Bee-Keepers' Association, and from that it has spread far and wide. In connection with this work I have developed a nucleus hive for the care of the queen-cells and the holding of the queens until they are mated and ready to send out. Now, that nucleus hive has various features considered likely to prove valuable, and I am testing it this year with thus far eminent success; and a further point is, I am of opinion I can winter readily very small nuclei over full colonies; in other words, by wintering a queen in the body of the hive, and two nuclei above double wire-cloth, I can winter three queens to the hive; and I think that would be a practical feature for honey-producers who themselves are not queen-sellers, and have no opportunity, perhaps, to sell queens in the spring, but who would thus have a reserve for every colony intended to be put into harvest, of two extra queens to select from, in the spring, enabling a man to select that one which he believed would develop his colony to the highest standard for honey-production.

The collection and dissemination of information of a statistical nature concerning the bee-industry I consider of great importance, since, I think, most bee-keepers are agreed the information contained in the census reports is not in all respects to be relied upon. I think we have deficient reports regarding the status of the industry in the country, and that, were a full report obtained, the importance and value of the industry to the country would be greater than it appears now. Following that, the collection of and the issuance of regular reports regarding our honey crop I have recommended for a number of years, but have been unable to carry that through. There is more prospect of our doing that in the near future, especially if bee-keepers would demand it—a regular collection of statistics concerning the condition of the crops and the issuance of monthly or bi-monthly reports in the same way as the crop reports regarding the staples of the country. I have not believed it could be done through the preparation

of statistics by the Department without a special corps of bee-keeping reporters that would be willing to report the crop of their locality in such a way that we could compile figures and issue something like reliable statements; and there have been various suggestions that the National Society should undertake it, but when you stop to think that there are more than 3000 counties in the United States, and we should have several reports from each county, and the sending out of monthly queries to the number of 10,000 perhaps would mean quite a little expenditure for printing, stationery and postage, it is hardly feasible for any society to undertake that, since all of that could be done under Government frank requiring no postage, and they could be printed in very large numbers, and the Government has its great printing-offices there that are at the disposition of the members of the Department if they order anything from them.

Now, I may be pardoned for adding a word. I think I have scarcely touched upon the many suggestions I have made, some of which have been carried out, but I want to say a word as to how this society could assist in these various things, or in any other work that the society might think was an advisable thing to undertake—how it might assist me in doing that work, or assist the department in doing it through any other agent or individual, and that is by a hearty support of what little I have been able to undertake; and the seconding of the suggestions that I might make, or the making of independent suggestions to be perhaps submitted to me, since they would ask my advice regarding them; and, directly, to appeal to the Secretary of Agriculture, and to the Chief of the Division of Entomology under whom I work, to make this work, in so far as possible, somewhat independent in the department; that is to say, to give the direct control of a certain fund, not of course the handling of the money, but the say as to how and in what direction that money shall be applied; and that a certain sum shall be set aside to be devoted to these industries directly. The Chief of the Division of Entomology, Dr. Howard, is a graduate of Cornell University, a very intelligent man, and understands, through numerous conversations with me, something of the status of the industry, and is willing and anxious to have this done; but he does not know, himself, exactly how to go about it, but he will defer to this society and to recommendations I may make; and if he sees there is a genuine union and demand for any line of work, he is willing to authorize and recommend it to the Secretary; and he has made many recommendations in accordance with suggestions I have made.

In any of these lines I am willing to co-operate with this Association, and I believe with a little more freedom in the application of such a sum as could be devoted to the interests of apiculture at Washington, we might do a great deal in the furtherance of the work, in assisting organization, in disseminating information concerning our pursuit, and showing its importance to legislators, who would then be willing to grant us more liberal appropriations. I thank you for your attention.

Dr. Miller—Just upon that one point of statistics I want to endorse heartily the thought of Prof. Benton, that if we can get statistics through the Government that is the way to get them; they are in the business of gathering statistics, we are not; and we might do something. I perhaps know more, personally, about gathering statistics than any other one man here, because a good many years ago the National Association—I don't know whether it was the National Association or somebody else—at any rate, I tried to get hold of our United States' reports, and it amounted to about that (a snap of the finger). Prof. Benton, I am sure, could get two reports more than I could, and, perhaps, 2000 more, and if that can be done I believe it would be of a great deal of advantage. I want very heartily to thank Prof. Benton for answering the question that he ought long ago to have answered personally to me. I hold him responsible for that. I will never forgive him for that, and that he didn't write me a letter and tell me all he was doing; but for the answer he has made this morning I want to thank him heartily.

Dr. Mason—Better forgive him while you are about it.

Dr. Miller—Do you want me to forgive you?

Prof. Benton—Yes.

Dr. Miller—All right.

Prof. Benton—I would not want a good man like Dr. Miller to hold such a grudge against me.

(Continued next week.)

Contributed Articles.

Preparing Bees for Outdoor Wintering.

BY C. P. DADANT.

Mr. C. P. Dadant:—I have been much interested in reading your writings in the American Bee Journal, and have profitted by your advice at different times, and if not asking too much I would like you to write an article on outdoor wintering, and give full description as to how you would prepare the bees—I mean, how to prepare and winter them without putting each hive in a separate winter-case. I think you wrote on this subject a few years ago, but as I recollect it I failed then to grasp exactly your meaning on some points. If you could give another article on the subject I am sure it would be appreciated by many bee-keepers.

I have over 60 colonies sitting somewhat scattering, and facing in different directions. Would it do to group these close together late in the fall, and front them all one way for wintering? Would they not get badly confused when they would fly out on warm days? And, after getting used to their winter location, would they not again get confused when set farther apart in the spring.

The season here has been poor for bees—too wet and cold. They did not work in supers until late in June, and then were hindered a great deal by rain. Basswood bloomed very heavy, but owing to the rain and cold they stored no honey from it. I got about 1,500 pounds of very fine clover honey in sections (including a little extracted), but I am entirely sold out already, and could sell that much more. I sold nearly all the comb honey at 16 and 17 cents per pound; extracted and "chunk honey" at 13 cents. This last sold the most readily of all.

Huntington Co., Ind., Sept. 18. A. H. Snowberger.

Replying to the above enquiries, I will say first that I have never seen any good come from bringing the hives together in the fall and spreading them apart again in the spring. I have, however, been told of some bee-keepers doing this and being well pleased with the result, but I do not accept these statements without some doubt. Many people take too many things for granted, and make superficial observations which they would see in a very different light if they took the pains to investigate more thoroughly.

It is a fact that any one can ascertain with very little trouble, that the bees get so accustomed to their location that if the hive is moved but two inches, the bees when they alight will at first almost invariably notice that two inches of difference. If you move the hive forward, they will at first almost invariably notice that two inches of difference. If you move the hive forward, they will of course alight as usual at the entrance, but if the removal is two inches to the right or to the left you will see them alight to the side formerly occupied. If the hive is moved back that distance, they will fall short of the entrance about the distance moved. As one might easily conceive, they will soon become used to so small a difference in the distance, and not all the bees will notice it, but enough of them will be annoyed by it more or less to show the practical apiarist the danger of moving bees without notice.

If you have the patience and the opportunity of moving your hives from two to six inches every day to get them together, the inconvenience to the bees will be less than the advantage gained from their being brought together for shelter. But so very few people have the time and opportunity of doing this that one can hardly advise it as a practical thing. If you move them two or three feet, especially when many hives are in the same spot, there will be much confusion, a great deal of fighting, and, if you are a practical bee-keeper, you will regret it.

When bees are moved a great distance, say beyond their usual field-range, they easily recognize the spot at their first flight and remember it, especially if the apiarist has taken care to place in front of the alighting-hole some sort of obstruction that will show them that something is changed in their whereabouts. The old, experienced bee, that usually flies out of its hive in a "bee-line," will then face about and reconnoiter before going away. But if it has left the hive in the usual bee-line, there are many chances that it will get disconcerted in coming home. Although some reliance may be placed on the "home" call, many bees will have alighted in the wrong place, and perhaps have been destroyed. Bees may be changed from one spot to another within a short distance, if they are given a very decided

notice of the change, by disturbance of alighting-spot in the placing of an obstruction as stated, but it is not advisable to try these things when they need their whole force in the hive to keep warm during cold weather.

The most important requirement in wintering is good food. A strong colony with honey-dew or fruit-juice is worse off for winter than a comparatively weak colony with good, healthy stores. If the confinement is of long duration, the bees of the hive that contains unhealthy food will become restless, owing to their intestines being loaded with an excess of feces. They will then either leave the cluster and become chilled, or be compelled to discharge their excrements in the hive, and thus soil the brood-combs and the other bees, causing the speedy loss of a good portion of the swarm. On the other hand, the colony which is supplied with healthy stores will keep clustered together and will be able to pass through a very long period without much suffering or loss.

If our colonies are strong in bees and have plenty of good food, the next requirement is a good shelter. It is well to have the inside of the hive so arranged that the moisture arising from the bees may pass off without causing the hive to become damp on mild days. For this purpose absorbents, such as chaff, sawdust, etc., are used. We use forest leaves, because they are plentiful where we keep our bees, and also because these leaves are usually neat and may be placed over the combs without soiling anything. Chaff and sawdust must be put in sacks, and the bees sometimes gnaw a hole in the sack or cushion so provided, and when you remove it it allows a quanity of sawdust or chaff to fall in the hive among the combs. Dry oak-leaves are much more easily removed.

I have heard the objection that dry oak-leaves are not as good a non-conductor of heat or cold as the chaff. This may be correct, but they are much better than many people think. Did you ever try to dig a hole in the ground, in the woods, when the ground was frozen? If you did, you must have noticed that when there is a thickness of leaves of three or four inches over the soil, you are able to dig into that soil long after the bare ground has been frozen over. This shows how much shelter there is in forest leaves, though they may not be as efficient as sawdust or chaff.

I have sometimes heard people say that this matter of absorbents above the bees was nonsense. It is not to me, because I have seen the matter tried on hundreds of colonies, and I will here say what the experience was. We used to put leaves in the caps of our hives, not to absorb the moisture but to keep the heat from escaping, just to help keep the bees warm. When we did this, we used an enamel cloth over the bees and placed the leaves on top of this enamel cloth. During a very hard winter, many of our bees died, the hive apparently wet from one end to the other, in the brood-chamber, from the moisture that had escaped from the bees. Nearly every colony found in that condition was dead. But we had a number of colonies in which the oil-cloth was partly gnawed away by the bees, large holes having been cut into it by them. These colonies almost invariably wintered safely, but the leaves in the upper story were soaked with moisture, and in some instances mouldy. The larger the holes were, in the enamel cloth, the better the condition of the bees. This was an eye-opener to us, and from that time on we have uniformly removed the enamel cloth for winter.

We place over the frames a mat made of what is commonly called here "slough-grass." It is a very coarse grass which grows on the Mississippi lowlands, and is used in some places as hay. This is tough and wiry, and lasts longer than straw, for straw-mats are easily broken when dry. This mat allows the moisture to escape through it into the upper story, which we still fill with leaves as formerly. We do not believe that anything surpasses the straw-mat in usefulness, both as winter and summer shelter. While it acts as a warm cover for frames during the cold days, it is the very best shelter against the rays of the July sun during the hot summer days. Here, in Illinois, we cannot leave our hives exposed to the direct rays of the sun in the hottest weather, as they do in countries where the altitude gives a relief from the scorching heat, or where the sun's rays are less perpendicular. Cool summers, like the one just past, are an exceptional occurence.

Now as to the outside shelter: I am very free to say that although we have used our method for years, there are some better ways, though perhaps more expensive, of sheltering the hives. We simply wrap up each hive on the three cold sides—north, east and west—with forest leaves held together by a frame-work of lath and twine, which is tied around the hive, like a cloak Some people use cornstalks for the same purpose. Others use this same slough-grass already mentioned by me, and make each hive look like a little hay-shock, the front only being open.

If all the other conditions are complied with—good food, plenty of bees, sufficient amount of stores, and absorbents in the super—the bees will be likely to winter well, if not too much exposed to the high, northern winds. But the additional shelter is not to be disdained, whether it is of leaves, or corn-fodder, or simply a tight board-fence, or in snow countries a big pile of loose snow around and over the hive.

But, by all means, I would give the bees a fair opportunity of taking flight as often as the weather will permit during the winter. Hancock Co., Ill.

Rearing Long-Lived Queens and Bees.

BY DR. E. GALLUP.

NOW, Mr. Greiner, I may as well pitch into you as any one—good naturedly, understand. I wish to ask what I call quite important questions, and would like them answered as candidly as they are asked.

You seem to fear that our bee-supply dealers may have to get up a different style of hive, etc. Now, if a queen reared in an extra-strong colony, such as I have mentioned, will fully occupy 16 Langstroth frames with brood, eggs, etc., in all stages of growth, in 21 days, are you perfectly satisfied with an 8-frame hive for such queen? Do you really think two 8-frame hives, one on top of the other, every frame fully occupied with brood, is the best and most satisfactory style of hive? Now you must understand that both stories must be double-walled, at the sides *especially*, or the two outside combs in each story will not be occupied. With double walls and dead air space the outside frames will be as fully occupied with brood as the center ones. Now we have 16 combs occupied with brood, and no place to store honey, and if we wish to examine the lower story we have to lift off the upper story. Then, with a good queen we are compelled to go on up to 4 or 5 stories, in order to give such a colony surplus room to store during the height of the season. In one case I worked a 10-frame Langstroth hive 4 stories high. I would certainly, for myself, prefer 12-frame hives to 8-frames.

You seem to think that the dead bees in front of that hive I mentioned, might have come from other hives in the yard. Well, at the time I was making that observation I had only one other colony in the yard, and that was over 100 feet away. I also had a 3-comb starved-out black colony, but not near the one spoken of. But the black colony kept on increasing in numbers, while the others decreased in numbers. Since you have accused me of jumping at conclusions, I have partially jumped at the conclusion that dead bees in front of that hive in the morning might have come from a neighbor's, over one block away, and come in the night on purpose to fool me in my observations.

You say that queens of my own rearing live to be 6 years old, simply because I mentioned one living that long, that I had received from Adam Grimm. Now, do you suppose I have never tested the longevity of bees by changing from blacks to Italians, at different seasons of the year? Well, I have, and I came to the same conclusions that you and Mr. Dadant did; but sometimes we are compelled to modify our conclusions, not by actual facts. In my 70 years' actual experience, and as close observation as I have been able to make (for I commenced when I was 12 years old, and am now past 82), I would certainly be a dull scholar not to have learned something in all that time. Mr. Dadant, Mr. Hetherington, and Mr. Quinby—all successful bee-keepers—used large hives, but they did not use hives four times as large as a 10-frame Langstroth hive. When I made that experiment I did not experiment on one single hive, but I made 7. I also made 2 long-ideal Adair hives, containing the same number of cubic inches as my other large hives.

Well, I have told you before, that the second season after putting bees in them none of them swarmed, and I *jumped* at the conclusion that I had a non-swarming hive; but the third season all of them sent out rousing swarms, before the standard hives did. Mind you, all of them had superseded their queens, and reared queens to suit the capacity of the hive. I was then keeping all Italians, and I had one of those queens impurely mated, so I killed the queen, and gave a cell from a purely-mated queen, cut out all cells from the old colony and gave a good cell, and here I had a grand opportunity to examine for the missing link, and I found it in every case. This change of queen was

made the first week in May, and lots of those hybrid bees lived 90 days; and I had held previous to this, that bees lived only 60 days, during the height of the working season. All of those cells were extra large, and contained a large amount of royal jelly.

I have also thoroughly tested, to my own satisfaction, some of the colonies from those degenerate queens, as to their longevity, and they lived only from 30 to 40 days, and your belief or unbelief *will not* affect the facts.

I never did double up swarms in order to rear queens, but I put two swarms into my large hive so as to be sure to have it filled with worker-comb for next season, as I did not have ready-made combs to fill up with. This fall the intention is to kill the hybrid queen, and next winter take out the division-board, then I shall have 20 Langstroth combs; remove nearly all the honey and commence stimulating with diluted sugar, as granulated cane-sugar costs, at retail, 20 pounds for $1.00. Understand that bees gather pollen all winter here. By stimulating just right I can rear a rousing colony, and have them rear drones early, swarm early, and have my queens purely mated before impure drones are out.

Now, Mr. Greiner, have you any objections? If so, please state them before I commence operations. I certainly have no objections to your making a large hive and doubling up swarms until you rear a 30-year-old queen, if you wish to.

What induced me to experiment with large hives was, seeing the large colony in the basswood log, out of which were taken enough bees to stock strongly four 10-frame Langstroth hives; and where I saw the largest queen I ever saw, up to that time, and the very largest queen-cells that I had ever seen, and I reasoned that there must be a cause, and by experiments I have demonstrated what that cause was, to my own satisfaction. I reasoned that those bees *must* be longer-lived than bees reared in small hives, or they could not be so extra-numerous; all were the progeny of one queen. In the aforesaid basswood log was where I first discovered the missing link, attached to the embryo queen.

You can have no idea how I have enjoyed the stirring up that I have made in the camp of bee-keepers. Speak up, gentlemen; don't be afraid of irritating or harming the "old gent;" you will find out he is "no spring chicken," on this queen-rearing question. He has more to say on this subject hereafter, as it is a subject of vast importance to the bee-keeping fraternity, for upon the quality of the queen hinges the success of bee-keeping.

Because you reared one inferior queen in one of your colonies, I do not jump at the conclusion that you claim that all your queens are of that class.

Orange Co., Calif.

No. 11.—Bee-Keeping for Women.

How to Preserve the Fine Flavor of Honey.

BY EMMA M. WILSON.

WE are all anxious that our honey be of the very best quality and flavor, but, perhaps, we are not all of us aware that we ourselves have much to do in bringing about the desired result, as well as the bees. The bees may give the honey into our hands in the very best condition, yet it is possible for us, by our ignorance or carelessness, to injure it much, if not utterly ruin it.

It is a fact that not many people, aside from bee-keepers, know how to keep honey properly.

One of our neighbors bought a case of honey from us. She used one section for tea, and put the rest of the case in the cellar for safe keeping, and only to be used upon state occasions. Some time afterward company came unexpectedly, and as she knew they were very fond of honey she went to the cellar for a section, thinking, as she went, how fortunate she was in having such nice honey to offer them. You can imagine how she felt on finding her honey utterly ruined, not much like the beautiful white honey she had put there. The cellar was damp—the very worst place she could have possibly put it; and yet it is a very common thing for people who do not know any better to put honey in the cellar. They naturally think it a nice, cool place for it, not knowing that the hottest and driest place you can find is the best place in which to keep honey.

If you can find a place for it in the kitchen near the cook-stove, that is an ideal place in which to keep it. If kept in such a place long enough the honey will string from the knife when it is cut, and the flavor will be uninjured. Neither will you be likely to have any trouble with the honey candying in the comb, as it may do if kept in a cold place, even if the place be dry.

Just the other day a lady telephoned me to know what she should do with her honey that had candied in the comb. I told her the only thing she could do was to melt it up and use it as extracted honey; gave instructions as to how she could do it, saying:

"Put the honey in a dish or jar, set it in hot water, but be careful not to let it get too hot, as that would spoil the flavor. When it is all melted, set it aside to cool. When cool, remove the cake of wax which has risen to the top, and the honey is ready for use. After washing the honey off, put the wax in a dish with some hot water, and melt it over again, and when it is cool you will have a nice cake of wax."

If the public knew more about taking care of honey it might be that they would use more of it. As it is, if they spoil the honey by not taking the right care of it, they are not likely to blame themselves for it, but think they have been cheated by having an inferior article palmed off on them, and they make up their minds that they will not again invest much in honey right away. And they may be honest in it, too, as they don't know any better.

The kitchen will do very well for a small quantity, but if a large quantity has to be stored, some place else must be provided for it. An attic or a garret is a good place—one of those attics on which the sun beats down so fiercely in the summer time that it makes it such a hot place that you feel as if you could scarcely breathe in it, that's the place for your honey. There it will thoroughly ripen.

It may not be generally known, but honey that has been kept for a sufficient length of time in such a hot place will be able to stand the freezing of the severest winter without the comb cracking, as it usually does when frozen.

After the thorough ripening the honey gets by being in such a hot place it never granulates, and perhaps it is the granulating that cracks the comb. Some have special rooms made as honey-rooms, with dark walls and roofs, to attract the rays of the sun.

In piling up your supers of honey in such rooms, or in the attic, it is a good thing to place small blocks between them at the corners, making a space of about an inch between the supers, for a free circulation of air to pass through.

McHenry Co., Ill.

Nice Flavor in Extracted Honey—Waxing Barrels.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes me that it does not seem that his extracted honey has as good flavor as it should be, and wishes to know what is the best plan to preserve the flavor of extracted honey. I am of the opinion that he has been extracting unripe honey, and then putting it up without paying any especial attention to a further ripening of it. The best plan to secure the best flavor of extracted honey, or of any other, as for that matter, is to leave it on the hive till it is fully ripened by the bees.

I think it pays well to have sufficient combs in number so that colonies can be given two, three, or four stories if need be, enough so that all of one kind of honey can be stored in them before any is extracted, and then leave these combs on the hive till just at the commencement of the flow of nectar from some other honey-yielding plant or tree, when it should all be extracted, or enough of it at least, so that the needed combs for the next yield can go on again. In this way the honey is thoroughly ripened on the hive, giving the honey the best possible flavor for its kind, and be all of that kind, as no other is stored with it. And if it can stay on the hive until all of the cells are capped over, or very nearly all, it will be ready to put up for market as soon as it has stood long enough for any impurities to rise or settle. In this way we secure the best possible honey from our locality.

In any event, honey must be thoroughly ripened to give it a fine flavor. If any one thinks he must extract honey every few days during the honey-flow, then let him procure an evaporator, either sun or otherwise, through or over which this green honey should be run, until it is of the consistency of that nicely ripened by the bees, when he will have something approaching, as nearly as possible, that ripened by the bees, both in quality and flavor.

That which has been left on the hive till thoroughly ripened by the bees will be so thick that it will "almost stand alone" when a dish of it is turned over, and any artificial ripening which leaves it short of such thickness is faulty, to say the least. Of course, it is more work to extract such thick honey, but by keeping it in a room whose temperature is nearly or quite 100 degrees hot for five or six hours, or by extracting on some very hot day, it will come out of the comb very nicely. Then, when extracting, all honey should be stored in tin or earthen vessels and kept in a dry, warm atmosphere that is free from odors. Loosely cover with some thin fabric like cheese-cloth, something which will let the air circulate somewhat freely over it, and at the same time keep out the dust, and let it stand in this dry, warm store-room till all of the air-globules have disappeared, the scum which arises being skimmed off, when the honey can be put into glass or tin vessels, ready for market or family use; and it will retain its fine flavor for years, if kept in a proper place.

WAXING KEGS AND BARRELS.

This same correspondent wishes also to know what is the best method of waxing kegs and barrels for holding extracted honey, and whether it is necessary that all barrels and kegs should be waxed when used for storing honey. Before waxing any keg or barrel it should be kept in a dry, hot room, or out in the sunshine on hot days for two or three weeks till it is thoroughly dried out. In other words, the barrel should be as dry as it is possible to make it, or for it ever to become, at the time of waxing.

Having it thus dry and warm, the hoops should be driven as tight as possible, and short nails, or those broken off so they will not reach through into the inside of the barrel, driven a foot or so from each other at the rear of the last hoop, so that the hoops shall not get loosened or misplaced in handling.

Now pour in, at the bung-hole, from five to ten pounds of very hot, melted wax, or, what is much more preferable, paraffine, and quickly drive in the bung. Now, turn the barrel over and over, and twirl it around on each end till you are sure all cracks are filled. Then take out the bung, pour out the wax, and heat it over again for the next.

The reason for having everything as hot as possible is, that the hotter the wax the more it penetrates the wood, and also so as to use as little wax as possible, as the waxing of kegs and barrels is quite costly at best.

It may sound a little strange to talk about saving wax by having it soak into the wood, but far less is used in this way than where everything is cooler so that a coating is taken on all over the inside of the barrel, with not nearly so good a job being done, either.

In removing the bung be careful to see that it does not strike you when it flies out, as the heated air sends it out with great force, sometimes.

Now, having told how to wax barrels, allow me to ask, in answering the latter part of the query, why not use those made of soft wood, which need no waxing, providing the cooperage is good? Leaky kegs and barrels can never be made entirely safe by waxing them. The shrinking and swelling of the wood, as exposed to wet and dry, will sooner or later break the wax, and sometimes a heavy jar in handling something so heavy as a barrel of honey will often crack the wax, especially if the weather is somewhat cold, and start the honey to leaking. Good workmen with soft timber can make tight vessels, and they cost no more than leaky ones. A keg or barrel properly made of the right kind of wood needs no waxing, so this expense is saved.

And in conclusion I will say that I prefer properly-jacketed tin cans to anything else for either storing or shipping honey. Onondaga Co., N. Y.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

WHEN TO CUT ALFALFA.

A story of the bear and the fiddle, begun and left off before it got to the middle, we find on page 595. We'd like to know how those four bunches of steers weighed up. Then we would have something to set before the alfalfa-raising neighbor who proposes to cut it all before it gets to blooming. Howsomever, it's not always wise for manifestly interested parties to reason with a farmer—might make him learn still more t'other way—some men being so got up.

BEES BUILDING QUEEN-CELLS.

Mr. H. H. Hyde, of the Texans, removes a film, if not a hide, from my eyes by what he says of starting bees to building cells, on page 596. Mr. Aten (as most of us would have done, I surmise) made his bees queenless and broodless at night, and gave them the wherewith to rear queens in the morning. Mr. Hyde claims that their first and best enthusiasm to replace their loss is on in only two or three hours; that at that time they will have work begun and royal jelly visible in half an hour after the needful start is given them. Wonderful, isn't it? If this is correct, of course dilatoriness causes a double loss, loss of hours, and loss in the amount of work done each hour. But may this not be another case of "sometimes"—sometimes ready to do the best kind of work in two hours, and sometimes inclined to rush around and neglect the young larvæ given them for many hours? (Didn't think to notify *professional* queen-breeders that they might skip this paragraph. Now, they've gone and read it, they may skip with wrath if they want to—yes, sir, they may.)

KEEPING A COLONY ON SCALES.

I'm ferocious at that fellow on page 597, who asked, Does it pay to keep a colony on scales? Did he contemplate the queen as coming out with a couple of nickels and paying the weigh-master. Apparently his question was simply a *plea*—a plea against investigation and study. Some people are so constituted that knowledge kind o' hurts 'em. Anxious to keep clear of it as far as possible. They do not tell us what then it is which they expect to put into that great emptiness—that great emptiness which they actually want us to call a brain. It may be that some such persons actually gain in dollars by exactly that course—refusal to see anything else but the paths which visibly lead to the dollar. Sorry. As a piece of my mind, however, two of them lose dollars and sense both for each one who gains dollars by the sacrifice of sense. The man who has a fund of general knowledge in his knowledge-box is the man more likely to succeed, I think—not to speak of its being more enjoyable to know a few things. We don't want to forget entirely that man was made in the image of God. How would it sound to inquire whether it pays God to keep a *world* on the scales? See Isaiah 40:12, and Job 28:25.

MISS WILSON'S SMOKER-FUEL.

Yes, Miss Emma Wilson, if you start with nice, industrious coals (more lazy coals you get the worse you are off), but get the right quantity of industrious coals, put on fine, dry-chip fuel, and "blow it up good," and you have "got there" for the time being. But, strange to say, I incline to turn my aft-think-atorial smoker on the whole proceeding and "blow it up good." What's the use of those of us who live in the country makeshifting along with anything else than the standard good fuel—rotten wood? I know woodlands are getting small and few, and that the superabundance of rotten wood to be found anywhere no longer surrounds the most of us. What then? Just "watch out" a little, and keep the subject on your mind, and seasonable supplies will turn up, if you seize them when they do turn up. Every stump is wood, and sooner or later will be rotten wood.

As to their decay, most of the thousand and one kinds of tree seem to fall in two grand divisions. The rotten wood of one division is ash-colored, soft, and breaks up as a mass of fiber. The other kind is brown, hard, and its fracture rudely approximates to cubical blocks. The first

kind catches instantly from a match, and smokes splendidly, but burns out rather too fast. Second kind lasts pretty well, but is sometimes a little hard to start with a match alone. Keep a supply of both kinds, well dried, and mix them according to wind and weather—and thereby forget that the smoker is the plague of one's life. Of course, you can stay in the wilderness if you want to. Saltpeter can save you (in the form of saltpetered rags), but wherefore? A zinc oiler full of kerosene will start you off; but is it the best one can do? Throw the saltpeter and the kerosene where some literary worthy was going to throw physic—to the dogs. Page 598.

COLLECTING BEE-LAWS.

To have all the laws relative to bees collected together apart from the bewildering mass of the laws in general is a good idea. Page 599.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Making an Observation Hive.

Please describe the best observation hive to one who wishes to study scientifically the workings of the bees. I have built a glass hive, and then removed the brood-frames with bees from a regulation hive; but then I can only observe the comb formation on the outside frames.

IOWA.

In some respects the ordinary hive is the best observation hive, for in that the bees are not prevented from carrying on their regular work in the ordinary way. What you desire, however, is a hive that will allow you to see what the bees are doing without being obliged to lift the frames out of the hive. The hive you have made allows you to see only one side of each outside comb, so the thing to do is to have none but one outside comb: in other words, make your hive for one comb only.

Keeping Robbed-Out Combs During Winter.

Will the bees winter just as well if I set a hive with combs that have been robbed out, under their hive, taking the bottom-board from between? I wish to do this to keep the combs from the moths; and then I am planning to keep them there until they have enough brood in the lower hive to make a colony, then set them off. It is all because I feel so badly because my bees robbed out 12 colonies out of 32 that a neighbor brought to me to take care of (on shares), as circumstances prevented her caring for them herself. The combs are in such shape that they cannot be lifted without more trouble and expense than I can give them.

COLORADO.

ANSWER.—Your plan will work, but you need not feel obliged to keep the combs in the care of the bees all winter in order to protect them from the moth. It will soon be so cold that there will be no danger from moths laying eggs, and even if larvæ of the moth should be present they will do little or no harm in cool weather. As soon as freezing weather comes, the freezing will destroy both larvæ and eggs, and there will be no more danger until it is warm enough next summer for fresh eggs to be laid by moths.

Black Honey Gathered by Bees.

"Massachusetts" says his bees stored a liquid nearly black, after August 1, and asked if it might not be gathered from huckleberries or blackberries, and you reply perhaps his guess is as good as any. If "Massachusetts" had noticed his bees closely in the morning, while the dew was on the flowers, and the goldenrod was so wet that the bees were not working on the flowers at all, he would have found them hustling about as if they were robbing. That was the way mine were doing, and I started out to discover the source of their supply. When I neared the oak-trees I could hear their busy hum and see them alighting on the leaves, which were covered in places with a sticky, shiny substance that the bees were gathering. One colony that I had standing on scales, gathered 12½ pounds in one day—not all from the oaks but part from goldenrod; and now as I open the hives I find nearly all the hive with a mixture of the two kinds of sweets, tasting strongly of goldenrod, but not salable, it is so dark and inky.

Several years ago I had one colony gather some 60 pounds almost black and very inferior to the honey this fall. The colony I had on the scales has gained about 50 pounds during the goldenrod flow; never but one year since 1856 have I had a colony store more during the fall flow.

NEW HAMPSHIRE.

ANSWER.—Whether the chief yield was from the goldenrod or honey-dew from the oak, is left a little in the dark. Goldenrod seems to be one of the most variable honey-yielders. It is very abundant in this region, but bees never seem to work upon it.

Transferring and Dividing—Finding the Queen.

1. I have 3 colonies of bees, one being in a square hive, and they are always building crooked combs. The bees are numerous, for one swarm returned after a short while. When would it be best to transfer them?

2. Could they be divided into two colonies?

3. How can I catch the queen for re-queening? I am a beginner and have read about re-queening but nowhere have I read about how to find the queen. The frames in my hive are firmly glued in.

MINNESOTA.

1. Better wait until next spring or summer.

2. Yes. Perhaps the best way to do that, and likely the best way anyhow, is to wait till the bees swarm next summer, hiving the swarm in a hive with movable frames, and then transferring the remainder about three weeks after the issuing of the swarm. In the meantime read up well in your text-book, so as to be well informed on general principles.

3. Most of the catching of queens is done by simply putting the thumb and finger down over the queen, pressing her lightly on the comb, then letting the thumb and finger slide together over the back of the queen, and holding firmly the wings. A wire cage may also be placed over her, removing the cage when she runs up into it. If your object is to clip the queen, you might like the Monette clipping device.

Learning Bee-Keeping—Florida vs. Pennsylvania.

1. To a woman contemplating bee-keeping would it be to her interest to help a bee-keeper, for the experience she would receive?

2. Are there bee-keepers who would want help of that kind, if she were willing to give her time for the experience?

3. Is it more profitable to keep bees in Florida than in Pennsylvania?

FLORIDA.

ANSWERS.—1. Yes, it would be to her interest so to do: spending a short time at it if she expects to keep bees on a small scale, and a longer time proportionately if she expected to do more at the business.

2. Yes, some bee-keepers employ such help every year. Watch for their advertisements, or else put in a short advertisement yourself.

3. I don't know. Some bee-keepers in Pennslyvania do better than some bee-keepers in Florida, and vice versa. In general terms, it probably might be said that the opportunities for successful bee-keeping on a large scale were better in Florida than in Pennsylvania.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get them subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

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White Clover	1.20	2.30	5.50	10.50
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GENERAL ITEMS

A Young Bee-Keepers' Report.

I am a beginner in the bee-keeping business. I have 4 colonies. The first part of the season of 1902 was cold and rainy, and I had to feed them. The fall was very poor, and they produced only 25 pounds of honey per colony; one colony alone filled three supers. I will have more to say some other time. I am but 16 years old. WM. COVERDALE.
Jackson Co., Iowa, Oct. 10.

Had to Feed for Winter.

There has not been any frost here this fall, and catnip, white clover, and dandelions are still in bloom. My bees did not store enough honey to winter on, so I fed sugar syrup.
FRANK KITTINGER.
Racine Co., Wis., Oct. 13.

Worst Season for Bees.

I have kept bees for 25 years, and find that the past season has been the worst one for bees, in this locality, I have seen.

Last spring I had 21 colonies. I fed them $3 worth of sugar to stimulate them, and it just kept them from starving. Two colonies did starve before I noticed them.

I got no swarms, but caught two that had been driven out by some cause; they had come some distance, as there are no bees within five miles of this village. I had to double them up or they would have starved, although they were large swarms.

My bees hung out all summer, and they seemed to do but little good. There was so much rain and cold wind they could not do much, and it continued cold all through June and until July 25, when it cleared up and turned warm. The smartweed bloomed in abundance with the catnip, and they went to work with a will—they were all on the move. It lasted only 10 or 12 days; the weather got colder, and a light frost coming set them back and drove them down from the sections. If they could have had ten days more of good weather they would have filled everything, but as it is some of the sections were filled. I think they are in good shape to winter; the hives are heavy with stores. S. T. CRIM.
Sangamon Co., Ill., Oct. 10.

Clipping Queens—Moving Bees.

Referring to the editorial on page 643, on clipping devices, I will say that I use a pair of surgeon's scissors (or finger-nail scissors) for clipping queens' wings. The points curve, and by holding them with the points curving up, the wing can be clipped easily without removing the queen from the comb, and without the least danger of injury to her legs. I never hesitate to pick her up, and have never had one injured by so doing. I have always carried a pair of scissors since I was a boy. I have a pair that shut up like a knife. I could

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not think of cutting a queen's wing with a knife, as I have seen recommended, by holding the wing on the corner of the hive, and sawing it off by drawing the knife across it. I would as soon think of taking a hatchet and chopping-block.

I notice another item on the same page, respecting moving bees a short distance and none going back. Here is a little experience of my own:

Last spring (March 25) I moved my whole apiary about 130 rods, finishing up about noon. After dinner I opened up the whole 47 hives; the air was full of bees, as though they were swarming; there was no robbing, no fighting, but not a bee went back to the old location. They had been flying for the last two days before moving, so it was not as if they had been confined to their hive and had forgotten their old location. There was not a single device adopted to cause them to mark their new location, unless it be that they were put on the stands without the least regard to their former relative position.

WM. M. WHITNEY.

Walworth Co., Wis., Sept. 15.

An Aster.

Find enclosed a sample flower from which the bees gather honey and pollen. It begins to bloom about the first of September, and continues until frost. Please tell me the name of the plant. GEORGE OSHA, JR.

Daviess Co., Ind., Sept. 26.

[The plant is an aster—Aster puniceus, and is a good honey-plant, as are nearly all the asters, and the whole composite family, to which the aster belongs.—C. L. WALTON.]

But Little Surplus Honey.

There was very little surplus honey in this locality, and some are losing colonies from starvation. I understand that some bee-keepers have not taken off an ounce of honey.

MRS. C. A. BALL.

Oneida Co., N. Y., Oct. 15.

Wet Summer—Report for 1902.

The season for honey is over, and I have cleaned up and have the bees ready for winter. This has been the wettest summer. We got no fall honey to speak of. I started in the spring with 45 colonies, and I did my best to hold them back from swarming, and partly succeeded, but I got several late swarms, increasing to 75 colonies. I got 1440 sections of basswood honey completed, and about 700 partly filled and partly sealed. I extracted them and saved the sections for next year. I think it pays better than to try to finish them out by feeding, and I will not feed sugar, as I have a reputation for having pure honey, and sell it all in my own town. I sell those that weigh 11 to 13 ounces at two for 25 cents. I peddle them out all over town, and have built up a taste and demand for honey. I sell the others to the groceries for 13 cents cash, and 15 cents in trade, so I have disposed of all my honey except about 400 pounds of extracted. I "took up" all the light colonies I had and extracted the honey out of them. I have now 46 colonies in good shape for winter.

We have quite a lot of sweet clover around town and some catnip.

I believe in strong colonies. The last of June I had several swarms issue at the same time, and two or three of them went together. I hived them, and weighed one that weighed 9½ pounds. I had to put on three supers before they could all get in, and they filled them in two weeks. When I have a swarm, in a day or two I take about four frames of brood from the old colony and put it in the new hive, and that insures keeping up the strength of the colony until they can have young bees of their own rearing. I aim to keep the drones down to the minimum.

I use the simplest hive I ever saw. It is 14x19 outside; 9⅝ deep inside; top-bar 18 inches; super, 14x19 outside, 17¼x14¼ inside; 4½ deep, with tins across. It holds 28 sections, 7 to the foot. So you see I do not have a lot of trappings to look after. It is the outcome of 20 years' experience, and it suits me. It is simple and practical. I prefer basswood frames to pine, some critics notwithstanding. WM. CLEARY.

Kossuth Co., Iowa, Oct. 6.

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Cleaning Unfinished Sections.

At this time of year it will be convenient to try a plan that has been given heretofore, and is thus given in American Bee-Keeper:

Take a hive-body and fill full of such sections or combs as you wish to have cleaned out. Carry one section to a colony that needs feeding and place it inside of the hive for a few moments. When well covered with bees take it back to the hive prepared before, which should be a short distance from the apiary. You will thus start a case of robbing. Adjust cover bee-tight and contract the entrance so that but one or two bees can go in at a time. It is said that the robbing bees will protect the robbed hive against other bees as they would their own. One colony might, in this manner, be utilized to clean out a good many sections, or a number of colonies might be set at work at one time, each one having their own feeding ground. The thing looks almost incredulous; we will try it next year.

Strong Colonies for Winter.

I cannot get a colony too strong in numbers for winter, for, given plenty of bees, there is plenty of warmth, and plenty of warmth means less consumption of honey. If the bees are much reduced in numbers they become consumers of honey to generate heat. I think it is less expensive in stores to winter and spring a strong colony than a weak one. There is certainly much less risk in wintering a strong colony than a weak one.—Editorial in the Australasian Bee-Keeper.

Foundation Versus Drawn Combs.

G. M. Doolittle has little sympathy with the idea that foundation is preferable to drawn combs. He says in the Progressive Bee-Keeper:

And this poor season has shown that some surplus honey can be obtained where we have combs to give the bees, when little or none could be obtained where the surplus arrangement was filled with foundation instead of comb. Colonies having combs gave from 10 to 20 pounds of honey, while those having frames of foundation did not even draw out the same, say nothing of giving out surplus. And where sections were used, those having "baits" in were filled and finished so as to be in marketable shape, while those having only full sheets of foundation remained untouched. And yet there are those among our number who would have us believe that it is to the bee-keeper's advantage to cut the combs out of

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these partly filled sections, run the same through the sun wax-extractor so as to separate the honey from the wax, and burn the sections, that we have the privilege of using new sections filled with foundation when working for section honey. Will it be too strong language if I say: "Away with such nonsense?" I should hardly have gotten a single section filled up to this time (August 5) had it not been for these partly-filled sections or baits, left over from last year. As it is, it looks as if I should be able soon to take off from 400 to 500 pounds of the same before buckwheat commences to yield nectar.

Then drawn combs have a value in helping to control swarming, as many of the colonies having such combs did not swarm at all, in this year of excessive swarming during July, when the bees secured just enough honey to keep up a large amount of brood, but not enough to do much storing or to start them to drawing out foundation.

Wax-Presses.

There are a great many inquiries as to which is most convenient, rapid and thorough—pressure under hot water, pressure in steam, or pressure on wax that has been heated in another vessel. With hot water one can get the same amount of wax as with steam, other things being equal; but it takes longer, and is more complicated. It has been suggested that the hot water will do better work than steam because of the fact that, since wax floats on water, the minute that a particle of wax is pressed out from the cheese-cloth it will rise to the surface out of the way—acting on the principle of "taking in the slack." Those who suggested this, however, had not tried both plans, and admitted that the idea was a simple theory. If they would try they would find, as we have done, that the wax will drop down from the slumgum when steam is used, just as readily as it will float up in the hot water.

We have not had success with the third method, although some may have had. It is very difficult to keep the wax from burning when heated in another place unless it is heated in hot water. If this is done, part of the wax will melt out and come to the surface, just enough of it to cause trouble, and yet too much to throw away entirely. After burning one's fingers in getting the hot wax transferred from the heating-pan to the press, a great deal of heat will be lost; and when the wax comes in contact with the cold press it is so chilled that not all of it can come out; and what does come, often sticks to the cheese-cloth, and refuses to run.—An Editorial in Gleanings in Bee-Culture.

Management for Comb Honey.

"How One Man Managed 500 Colonies for Comb Honey in Out-Apiaries" is the title of a paper by W. Z. Hutchinson, reported in the Canadian Bee Journal as read at the Ontario convention. Chas. Koeppen was the man in question, his management being as follows:

In the spring the bees are looked over, stores equalized, and all extra combs removed, the bees being crowded up on as few combs as possible. When the packing is removed, each alternate hive is moved ahead a little way, and the other hives moved back a little, and then in a few days the distances are increased until the hives are sufficiently scattered. As soon as the bees are crowded for room the combs are spread, and empty combs are put in the center. This is usually done for the first time just before the harvest from white clover. A week or ten days later the colonies are again gone over, and the combs of sealed brood in the center shifted to the outside; the outside combs, that are largely filled with honey, being moved to the center of the brood-nest. At the opening of the basswood flow the brood-nests are again overhauled, and this shifting process gone through with; but, in many instances, in fact in most instances, that is, if the colony is strong enough, two combs of bees and brood are taken away and used in starting a nucleus, their places in the centre of the brood-nest being filled with empty combs. Each nucleus is furnished with a queen-cell,

plenty of which will be found in overhauling the colonies. The empty combs that are placed in the center of the brood-nest at the last overhauling, are usually filled, to a great extent, with honey; but as the flow begins to slack up, the honey will be removed and used in filling what sections may be on the hives.

It is astonishing how a colony so treated will go on finishing up the sections after the flow from basswood is over.

With this management there is very little swarming, and as the queens are clipped, the swarm always returns, and usually the queen gets back into her own hive. If she does not, the fact is shown at the next examination. Mr. Koeppen says that if he can get around and examine each colony as often as once a week there is practically no swarming. Upon reaching an apiary, if there is not time to go over the whole number of colonies, the strongest ones are selected for that purpose.

Watermelons for Bees.

At the Ontario convention the question was offered, "Has any one got watermelon honey?" The following is part of the discussion:

Mr. Fixter—They will work on watermelon all right if there is an opening made for them. When they are testing watermelons at the experimental farm they have to get inside a building that the bees won't crowd around them.

Mr. Tender—That is a bad thing for bees. With me, they went up to work and filled up everything where the brood that has been hatched was, with watermelon honey, and, of course, the consequence was I didn't know anything about it. This was in the center all the time and the sealed comb honey was on the outside; and when I came to look at them this spring I found I had lost 16 colonies with diarrhea. Mr. Armstrong came along and said that was what was wrong.

CONVENTION NOTICE.

Chicago - Northwestern. — The executive committee of the Chicago-Northwestern Bee-Keepers' Association have planned to hold the best convention ever convened in Chicago. The date is Dec. 3d and 4th, Wednesday and Thursday. Five eminent bee-keepers have been invited, and are expected to attend. More definite announcement later. Watch for it. Reduced rates on account of the fat stock show, which is held Nov. 29th to Dec. 6th

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This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

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for our special 15 day trial proposition on the DANDY GREEN BONE CUTTER. The fastest and easiest made. It will double your egg yield. Price $5 up.
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Six hundred sixty-pound cans of white, and two hundred cans of slight amber tint. Freight to principal parts East, 75 cents. What will you give?

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Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.
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The Page Fence Co.—In a recent letter from the Page Woven Wire Fence Co., of Adrian, Mich., they say:

"We were never so well equipped as at present to furnish Page Fences. Having our own steel, rod and wire nails, and having largely increased our weaving capacity; with about 1400 employes on our pay-roll, converting the iron into high-carbon steel, the steel into ingots, blooms, billets, rods and wire, and with doublethe number of looms that we had Jan. 1, 1900, we feel that we are in pretty good shape to supply the demand for 1903.

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"No locks, staples, or other devices are used to hold the horizontals and cross-bars together, because Page Fence is a real woven wire fence. Horizontals and cross-bars woven together is all there is of it."

Their advertisement appears regularly in our columns, and if you have not investigated the merits of their fencing, you should write for catalog, descriptive matter and prices now. Address as above, and be sure to mention the American Bee Journal when writing them.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Oct. 9.—The advance noted in our last quotation has been maintained and there is a very good demand for honey at the present time. No. 1 to fancy white comb brings 15@16c per pound, with the lower grades selling at from 2 and 3 cents less; this includes the light amber. Dark grades of amber sells at about 10@11c, and buckwheat 9@10c. Extracted is steady with white bringing 6½@8c, according to color, flavor and quality; the amber brings from 6@7c; dark, 5½@6c. Beeswax in good demand at 30c. R. A. BURNETT & Co.

ALBANY, N. Y., Oct. 14.—Honey is selling well with no accumulation We quote: White fancy comb, 16c; A No. 1, 15c; No. 1, 14c; mixed, 13c; buckwheat, at 13@13½c. Extracted, white, 7@7½c; mixed, 6@6½c; dark, 5½@6c. Beeswax, 28@30c. H. R. WRIGHT.

KANSAS CITY, Oct. 11.—The demand for both comb and extracted honey is good, especially comb, at the quotations. We quote fancy white comb, 14@14½c; No. 1 white, 13½@14c; No. 2 white and amber, 13@13½c. White extracted, 6½@7c; amber extracted, 6@6½c. Beeswax, 22@25c. C. C. CLEMONS & Co.

CINCINNATI, Oct. 4.—The demand for extracted honey is good at the following prices: Southern and amber sells at 5½@6½c; better grades, 7@8c. Comb honey is scarce; fancy and No. 1 sells on arrival at 16@17c. Beeswax weak at 28c. THE FRED W. MUTH Co.

NEW YORK, Oct. 10.—We are having a good demand for comb honey and receipts are quite plentiful. We quote fancy white at 15c, and some exceptionally fine lots will bring from 15½@16c; No. 1, white, 13@14c; amber, 12c.

Buckwheat is late arriving, and none has been on the market as yet to cut any figure. We expect large receipts next week, and it will sell at from 10@12c, according to quality and style of package.

Extracted in fairly good demand at 7½c for white, 6½c for light amber, and 5½@6c for amber. Southern in barrels at from 55@65c per gallon. Beeswax nominal at 28c.

HILDRETH & SEGELKEN.

CINCINNATI, Oct. 7.—Comb honey is in good demand, the supply is short and very little offered. No. 1 fancy water-white sells at 16c; other grades less, according to quality. The demand for extracted is very active and prices are a little better; amber sells for 5½@5½c; alfalfa from 6@6½c; water-white white clover, 7½@8c. Beeswax, 30c. C. H. W. WEBER.

SAN FRANCISCO, Oct. 8.—White comb honey, 12@12½c; amber, 8@10c; dark, 7@7½c. Extracted, white, 5½@6c; light amber, 5½@5½c; amber, 5@5¼c Beeswax, good to choice, light, 27@29c; dark, 25@26c.

Considering the limited quantities offering, and the firm views of holders, there is a fair amount of business doing. The firmness of the market, however, is confined principally to high grade stock. Offerings of water-white honey are of especially light proportions.

Wanted—Extracted HONEY
Mail sample, and state style of package and price delivered in Chicago.

John F. Campbell, 53 River St., Chicago, Ill.
34Atf Mention the American Bee Journal.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER,
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WANTED WHITE CLOVER EXTRACTED HONEY!
Send sample and best price delivered here; also Fancy Comb wanted in no drip cases.

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a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)
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These are clear flint glass jars holding just one pound, and the shape of a keystone. They are 7⅛ inches high, and very pretty when filled with honey. The corks can be sunk a trifle below the top, and then fill in with beeswax, sealingwax or paraffin. We can furnish them in single gross lots, with corks, f.o.b. Chicago, at $3.50; two gross, $3.25 per gross; or five or more gross, at $3.00 a gross. These are the cheapest glass one-pound jars we know anything about. We have only about 30 gross of them left. So speak quick if you want them. Address,

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144 & 146 Erie St., - CHICAGO, ILL.

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The classic in Bee-Culture—Price, $1.25, by mail.

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Hamilton, Hancock Co., Ill.

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We can use the following:

Please submit samples of Extracted and quote prices (delivered, if possible.)

State from what source gathered and how soon you can ship and quantity of each grade offered:

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3rd.—Car Buckwheat Extracted or other dark or amber honey.

4th.—Car Basswood Extracted.

5th.—White or Sweet Clover Comb and Extracted in any quantity.

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MEDINA, OHIO.

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Distinguishing Perfect Queens.
DR. E. GALLUP.

Queen-Rearing of 1859 vs. 1902.
HENRY ALLEY.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., OCT. 30, 1902.

FORTY-SECOND YEAR
No. 44.

WEEKLY

PROF. C. P. GILLETTE,
OF THE STATE AGRICULTURAL COLLEGE, FORT COLLINS, COLO.

THE AMERICAN BEE JOURNAL

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IMPORTANT NOTICES.

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The National Bee-Keepers' Association.

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

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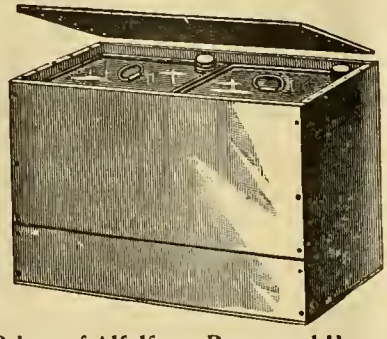

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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

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A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 9 cents per pound; 4 cans or more, 8½ cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

AMERICAN BEE JOURNAL

ESTABLISHT IN 1861

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., OCT. 30, 1902. No. 44.

Editorial Comments.

White Clover for Next Year seems all right, at least in northern Illinois. Never before, perhaps, has there been a stronger growth of white clover in October than at the present time. Its very luxuriance will help to protect it against a severe winter, the dense foliage forming a close covering, and the corresponding strength of root will also be a help. Bee-keepers are a hopeful lot, and they will at least enjoy the prospect throughout the winter, even if the winter should be so severe as to kill out all the clover. But that is not likely to occur.

The Weather has been exceptionally favorable of late, giving every opportunity to have the bees get into good shape for winter. This very favorableness, however, will in some cases act unfavorably, for there are some who will see no immediate need for action so long as the weather is so fine, and so the little things needed will be put off. Let all such remember that fall weather is well along, and almost any day may close up our beautiful days and nights, so it is wise to be provided against whatever may happen. If you did not see that your bees were well stocked with provisions in September, see to it at once that the delay be no longer continued. Each day longer is one day worse.

Building Combs to Separators.—G. M. Doolittle writes very fully upon this subject in Gleanings in Bee-Culture. To avoid having the bees build the comb of sections to the separators, he advises having the hives carefully leveled with a spirit-level, at least in the direction in which the combs run in the sections; to see that the starters are thoroughly fastened so that one of the corners can not drop down; to make sure that the starters are true in the sections, preferably using full sheets as starters; to avoid giving sections to colonies too weak to occupy them fully; and to avoid putting sections on too early, or leaving them on too long at any time when the bees are not storing.

To all this Mr. Doolittle might profitably have added that those who use bottom starters and fill the sections with foundation will not be likely to have combs built to separators, no matter what the other conditions may be.

Nomenclature of Forced Swarms.—Of late the plan of anticipating swarming by reducing a colony to the condition of a swarm before it has actually reached the swarming point has received much attention, especially in Gleanings in Bee-Culture. Editor Root classes it as an important discovery, although he does not claim there is anything new about it, for years ago it was given to the public by the late German leader, C. H. J. Gravenhorst. From the number that have been practicing the plan, it seems probable that others besides Mr. Gravenhorst have struck upon it independently, for it is a thing that would naturally suggest itself.

Just what should be the right name for a swarm thus made seems a matter not entirely settled. Mr. Gravenhorst called it a "fegling," a German word that might be translated "brushling," or a "brushed swarm," and "brushed swarm" has been the term used in this country to some extent. Editor Root, however, used the term "shook swarm," and the term has been used to such an extent that it is likely to stick. Deference to Mr. Gravenhorst would suggest the propriety of following his example by using the term "brushed swarm," but those in this country who have used the plan do a good deal more shaking than brushing in removing the bees; so it seems more appropriate that the name should be one suggestive of shaking rather than brushing.

There can hardly be any objection raised to the term "shook swarm," except that it is very bad English, and on this account Dr. Miller has protested against it very earnestly, saying that when one shakes anything that thing is shaken, and so a swarm that is made by shaking should be called a "shaken" swarm. To this Mr. Root replies that the word "shook," to his mind, has a stronger meaning than the word "shaken." It seems a little strange that so well-informed a man as Mr. Root should make an idiosyncracy of his own mind a sufficient reason for using a term that grates harshly upon the ears of others, and it is likely that he has had some feeling of the kind, for in the last number of Gleanings he shows a disposition to desert the term "shook," saying:

"I would suggest that we use the word 'forced' swarms, for that will describe either shook or brushed swarms, and avoid at the same time the ungrammatical adjective 'shook.' When we get the bees out of the hive by any of the processes named we *force* them out—we *make* them swarm, and if reports are to be believed, we make them think that they have actually swarmed, and that, therefore, they must get down to business."

No one in this country has championed more earnestly than Mr. Root the plan of swarming in question, and whatever term he uses will be likely to be adopted by bee-keepers who use the English language. If he should continue the use of "shook swarms," Dr. Miller may content himself with the thought that this is one of the cases in which "might makes right"—eventually—and however bad it may sound to say "shook swarms," it will be good English when *every one* says it.

Age at Beginning of Field-Work.—M. Devauchelle says that most authors agree upon 15 days as the age at which bees begin to forage in the fields, but he has made experiments which show that bees can gather honey at 8 days old and pollen at 10. These, however, he considers as only special cases which do not disprove the rule.

In this country the general agreement seems to be 16 rather than 15 days as the age at which worker-bees begin

to work in the field; but it seems pretty certain that under stress of circumstances they may be forced to begin work at considerably less than 8 or 10 days of age. Only to give one well-authenticated instance:

For the sake of caution a valuable queen was put in a hive containing sealed brood, much of it just ready to emerge, but not a bee was left in the hive except the queen. The hive was placed over a strong colony, so as to receive the heat therefrom, but wire-cloth prevented the passage of any bee. The hive was kept closed bee-tight for 5 days, and then the entrance was opened, the hive being so placed that there was no danger of the entrance being confused with the other. On that day young bees were seen entering the hive with loads of pollen, showing clearly that when necessity requires a worker *may* gather pollen at 5 days of age.

The Weekly Budget.

MR. W. P. HOGARTY, of Wyandotte Co., Kans., who is an old soldier, called on us when on his way home from attending the G. A. R. encampment recently held in Washington, D. C.

W. Z. HUTCHINSON has been appointed Foul Brood Inspector for the State of Michigan, John M. Rankin, the former inspector, having secured a steadier and more profitable position with some business firm.

MRS. J. J. GLESSNER—one of the wealthy society ladies of Chicago—returned Oct. 11 from her summer home in the mountains of New Hampshire, where she has her bees. She had 7 colonies in the spring, and secured over 700 pounds of comb honey and about 160 pounds of extracted, besides increasing to 13 colonies. Of course, she keeps bees only for the pleasure it affords her. There are one thousand acres in their place, and no other bees near. Mrs. Glessner attended them personally this season, and enjoyed it immensely. There are a lot more society ladies that could do likewise, if they desired to add to their stock of pleasure and good health by useful outdoor exercise.

THE CHICAGO CONVENTION—Dec. 3 and 4—promises to be a regular hummer. If any bee-keeper within say 200 miles of Chicago doesn't attend, he (or she) is going to miss it. See what Secretary Moore has to say about it now:

THE NEXT CHICAGO CONVENTION.

There should be a very large attendance of lady and gentleman bee-keepers at the next meeting of the Chicago-Northwestern Bee-Keepers' Association to be held at the Briggs Hotel club room all day Wednesday and Thursday, Dec. 3 and 4, 1902. Six well-known bee-keepers are expected to be present.

E. T. Abbott says: "I thank you for the invitation, and will see if I can arrange my matters so I can attend."

C. P. Dadant says: "I shall be glad to accept the invitation unless unexpected circumstances prevent."

N. E. France says: "I will be there with drawings and samples of foul brood. I am always glad to speak to bee-keepers on this important subject."

Pres. W. Z. Hutchinson says: "It affords me pleasure to accept your invitation to be present at your coming convention. I will come prepared to address the convention on "Commercial Organization Among Bee-Keepers."

Dr. C. C. Miller says: "Providence permitting, I shall be with you at your annual meeting, Dec. 3 and 4."

Mr. E. R. Root says: "My brother Huber has been making a long series of experiments in melting up old combs under pressure. He will give a paper on 'Wax-Presses: Their Construction and Their Uses.' In case he can not come I will take his place. If I can get away perhaps both of us may come."

With all this talent we can have the best convention ever held in Chicago, if the 300 bee-keepers near by will also come and bring their wives and sisters.

HERMAN F. MOORE, *Sec.*

Wouldn't it be a joke on the National, if the Chicago convention should exceeed the one held in Denver recently, both in size and interest? That is entirely possible. Many agree that Chicago is the best bee-keepers' convention city on this continent. It would not do for us to say that, but we can easily coincide with that opinion.

There is quite a little time yet before the Chicago convention meets, so that everybody can begin to plan to be here on Dec. 3 and 4. It is expected that all the railroads centering in Chicago will offer excursion rates at that time, on account of the International Live Stock Exposition that will be held here beginning Nov. 29 and continuing for a week or more. Ask your nearest railroad ticket agent concerning it, say about Nov. 25. He will know all about it by that time, if not sooner.

J. L. ANDERSON, of McHenry Co., Ill., gave us an exceedingly pleasant call on Tuesday, Oct. 21, when attending a meeting of the Presbyterian Synod in Chicago. Mr. Anderson is one of the oldest bee-keepers we know, and has been a reader of the American Bee Journal for over 30 years. And still he is well and happy! He has about 80 colonies of bees, but this has been a discouraging year for him, as he has taken only about 500 pounds of honey.

THE APIARY OF MR. J. J. DUFFACK is shown on this page. When sending us the picture he wrote as follows:

"My apiary contains 18 colonies of bees. They are in the resident part of the city, and so far I have not had any trouble with my neighbors concerning the bees.

"I commenced bee-keeping four years ago with one colony. My average yield of comb honey, for 1901, was 50 pounds per colony. My bees are wintered in a cellar specially built for them, in which they have done very nicely, as the temperature varies very little.

"You will notice that I did not have my picture taken with the bees, as I am not as good looking as the majority of the bee-keepers who appear with their bees."

APIARY OF J. J. DUFFACH, OF YANKTON CO., S. DAK.

Convention Proceedings.

THE DENVER CONVENTION.

Report of the Proceedings of the 33d Annual Convention of the National Bee-Keepers' Association, held in Denver, Col., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 679.)

THE GOVERNMENT AND THE ASSOCIATION.

Dr. Miller—Prof. Benton said he was ready to receive suggestions. I want to suggest one thing. I believe he can do not a little towards increasing the membership of this Association. I believe that in his letter-heads that he sends out if there were possibly a hint that there is such an Association, that would go to many a one who otherwise might never dream that there was such an Association. I merely throw out the hint for him to think about.

Prof. Benton—That calls to mind that particular point. You must understand, so far as the Department is concerned, nothing of the kind could appear in a letter-head; there are ways that it could be brought to the attention of the public, but in all of this work I think there is some misunderstanding on the part of people regarding a certain feature of it: There can be no special legislation; we can not secure special legislation. Many have wanted the National Congress, for instance, to establish a law for stopping adulteration. There can not be anything of that kind. Again, they have wanted an appropriation of money for a National society. There can be nothing of that sort; legislation of that kind must be general; and in the case, for instance, of a pure-food law, Senate and Congress would be glad to establish a law regulating interstate commerce and commerce within territories, directly under the National Congress; the appropriation of money should be made for the industry through those channels that are regularly appointed as a part of the Government, but not through any society which, so far as the National Government is concerned, is like an individual; that is. this society is looked upon by the Government in this way. There could be no appropriation by the National Government of money directly for this society, but the aims of this society can be forwarded through the Department of Agriculture, through a special appropriation which has been asked for, and which has sometimes been granted, it seems to me, in a niggardly manner. Why? Because the people in the States did not ask their members of Congress for it; and for that reason you will have to ask the people to write to their members and tell them they want so and so.

"Well, my letter doesn't amount to anything;" but if he gets 20 such letters he sees his constituents are thinking about it, and other members in Congress get similar letters and they begin to think about it. Any one member would not like to stand up and broach the subject all alone, but if every member in Congress found there were 20 behind him pressing for it, it would positively come. If you only ask on every hand, and every member, then there won't be any one there to back down, and they have to go ahead and speak for their constituents, and they are going to do what their people want them to do; and if they thought there was anything in this industry, or any considerable number of people interested in it, or that it had any real, vital influence over the agricultural interests of the country, they wouldn't turn it down, that is all.

Now, there was a little thing overlooked that I want to go back to, and that was when I spoke of adulteration. Just as soon as these honey canards appear where there is some man that thinks, Now, there is a bee-keeper on the one hand who says this thing is not possible, and here is a newspaper reporter that has written it up in great style that they are manufacturing combs and filling them with glucose, sealing it over and sending it out; and he doesn't believe one or the other exactly, but he wants an impartial statement of it, and he writes to the Secretary of Agriculture. That letter is referred to the Division of Entomology, and lands on my desk. I answer that, stating the facts as they are known to me, and that letter is received as the statement of the Department of Agriculture; it carries weight with it, and he believes that statement, and he is willing to publish it. There have been numerous requests of that kind for real information which I have taken pains to answer at length, and I think they have had some influence in counteracting views expressed by those who thought they saw a great thing in adulteration.

E. T. Abbott—I am going to ask a question of Prof. Benton. He says there can't be any special legislation for the good of this society. Now, just a short time ago, if my memory serves me right, Congress appropriated $500,000 to help some people that do not even belong to the United States. They gave them $500,000 down there in that Island. I used to tell my wife I was afraid to live on any of those islands, I was afraid they would sink. I guess I was about right. One sunk down there, and Congress appropriated $500,000 and sent a vessel down there, and they did it because they wanted to. I rather guess if we want it real bad they would put up a little money for the bee-keepers, or anything they took a notion to. They appropriate some $20,000 or $30,000 to bury some dead Senator, or some man that gets on a booze. Those are special appropriations. The truth of the matter is, the people of the country have not awakened up to these things; they don't seem to know about these things. If they just let Congress know that if there is any appropriating along those lines they would like to have a slice, I believe they would change their mind about special appropriations. [Applause.]

E. R. Root—I wish to testify to the good work done by Prof. Benton in answering those canards. I had a good deal of work in connection with it, and they wouldn't take my statements, as I was interested in a paper; but all I had to say to them was, "Please write to the Department of Agriculture, and they will tell you the true facts of the case." They did so; and some of the worst papers that had been publishing stories about bee-keepers, and what they would do, have retracted handsomely; but only after they wrote to the Department of Agriculture.

Dr. Miller—Prof. Benton refers to one thing, in regard to getting an expression from this National Bee-Keepers' Association as to what we would like from the National Government, or the Department of Agriculture. I don't know, but I think it would be proper to have a committee to draft such resolutions to get an expression from this Association showing what we would want. I don't know that that is a wise thing, but if this matter of negotiation could go on record and give help to the Government in its work, and help us, we ought to have something of that kind.

O. L. Hershiser—Here is a query: Why would it not be the best way to have formulated a form of petition asking Congress for any reasonable and proper aid through the Department of Agriculture, to be placed in the hands of the National Association and your State Association, to be signed by the members thereof, and transmitted through the proper channels to Congress. That would bring the matter before Congress from all parts of the country for this National Association, and would give it such character as to induce Congress to act favorably upon it.

Mr. Harris—I move you that a committee of five be appointed by the chair to take these matters under consideration, and report later to this convention.

Dr. Mason—I second the motion.

Mr. York—I would like to amend that, and suggest that the Board of Directors prepare a list of requirements to be presented to the Department of Agriculture. The Board members are our representatives, and there is a great deal of wisdom collected there. I think they ought to be able to form a good list of requirements, and if we back them up I think it may amount to something.

Mr. Harris—We will embody Mr. York's idea and let it go at that.

Dr. Miller—There is this advantage in the motion as first offered. A committee could be chosen of the directors who are here; they are all here, and you can promptly have the matter acted upon if you call the directors aside.

Mr. Taylor—It seems to me the amendment should prevail. If a committee is appointed we will have no report for a year, or have a report made hastily, a report of a comparatively few number of members. Now, if this is referred to the Board of Directors, under the amendment, they are men who are supposed to have an interest in all these things, and to have spent a great deal of thought upon them, and they will have time to consider it, and they can all consider it, though they are not here. It is not necessary that this body, as a body, should act upon it if it is referred to the Board of Directors; the directors may take a month

or two, or even three, and make up a thorough, well-digested report, and forward it to the proper office in the Government. It seems to me that is much more preferable.

Dr. Mason—I think, with Dr. Miller, that the motion of Mr. Harris is a good one. We can refer this matter to a committee that can consider it briefly, and they will probably come to the conclusion that the best thing that can be done is to give the Board of Directors time; they can so recommend it to us, and then we can request the Board of Directors to do this work; then they have some authority; when they report to the Government they will say, "At the request of the Association, we, the Board of Directors of our Association," do so and so. I would be in favor of referring to the committee at the present time, and then letting it go into the hands of the Board of Directors.

Mr. Taylor—Am I to understand the motion is withdrawn as made by Mr. Harris, and that the amendment is before the house?

Mr. Harris—I rise to a point of order. We are all out of order at the present time, as the motion has not been stated; the gentleman who seconded my motion did not consent to its withdrawal, therefore the original motion is before the house.

Mr. Abbott—I rose to say I did not give my consent.

C. P. Dadant—As a member of the Board of Directors I know something about the difficulties encountered in having an understanding by correspondence. The directors present can have a talk and achieve a great deal more among themselves while they are present face to face than they can when they have to write. The letters all have to go to the chairman, and resolutions have to be proposed. For that reason I am very much in favor of a committee being appointed, whether it is of the Board or out of the Board, and do what we can here. One of the directors will make a proposition; that has to go to the chairman, then he has to send that proposition to each of the members; then the members make additions or corrections, and that takes a great deal of time. It is not satisfactory at best. We can not have a meeting anywhere else. We each go home, living in a different State very often, and it is very difficult to carry on business with the Board. Therefore, I would be in favor of doing all the business we can do right here in the convention.

W. F. Marks—There are certain phases of this question that can be settled here to-day. This committee could be appointed to take up this question of statistics, and it seems to me that is the proper way to do it. I am not in the least in favor of referring this matter to the Board of Directors. The resolution can be passed here to-day asking the Department of Agriculture that they be requested to take up this matter of statistics and furnish us with statistics in regard to the apicultural industry. I see no reason why it should be referred to the Board of Directors.

Prof. Benton—I think Mr. Marks has misunderstood the scope of the proposed recommendations; they were to be more general, not merely one particular subject, but to cover the field of what connection there ought to be between the Governmental work and the work of this Association, and how they could assist each other. The whole general subject, with a series of recommendtaions, and as to whether it would be wise to settle that here or not, it seems to me it would be rather advisable to have the committee, and the committee to suggest that the Directors should take it up in more general manner.

Dr. Miller—I am very ready to admit that there would be that advantage in having the Board of Directors to act, and I am very sure that the Board, as individuals, will readily fall into Mr. Dadant's thought, and be glad to have some one else do the work; but it has occurred to me that possibly we might have both of these things done and have a committee here consisting of the Directors who are here, then have that committee refer the thing to the whole Board. It does not come, perhaps, from one of the Directors with very good grace to have such a thing proposed, and yet we must not be too modest. I am rather of the opinion that a good plan would be to have a committee now consisting of the members of the Board who are here, and let that committee refer the matter to the whole Board.

Mr. Taylor—Mr. President, as it strikes me, it would be manifestly absurd—

L. Booth—I rise to a point of order. I have not heard any question stated by the chair; I don't know what is before the house.

Mr. Taylor—I am going to make a motion. Mr. President, I was about to say that it would be manifestly absurd to refer this to a committee and expect that committee to make a report that would be worth anything during the life of this convention. This is a matter that would require some thought; after the thought is matured it would require some time in order to put the thought in shape and make it presentable. If we are going to deal with this matter intelligently, we ought to do it in such a way that we shall get a result that is intelligent. Now, the last suggestion of Dr. Miller, it seems to me, is a very good one, and I move to amend the original motion by substituting this, "That the question be referred to a committee to be composed of the members of the Board of Directors here present; that they consider the question while they are together, and that after this convention is adjourned they refer it further to the other members of the Board of Directors, and that they make a final report and have it submitted to the Government."

Dr. Mason—Mr. Taylor moves to amend by substitution. Is that proper?

Mr. Taylor—Certainly.

Mr. Harris—I rise to a point of order. There is nothing here for discussion, and I, as the mover of the original motion, would like to talk on the motion when properly put by the chair.

Dr. Mason—If that is proper, that we can have such a motion to amend by substituting, I want still to say that I believe the best thing we can do is to put this before a committee composed of those not directors, and I believe we have the ability to mature enough of a plan to be submitted to this convention so that we can get it right before the Directors, and they before the Government, and make it count.

Dr. Miller—I rise to a point of order. I believe Mr. Harris is right. There is nothing before the house at all; the President has not stated the motion.

Pres. Hutchinson—I don't know that I can remember it.

Dr. Miller—The stenographer will read it, and then you ought to repeat it.

Dr. Mason—That is pretty small, but you are a small man.

The stenographer read the motion, after which the president stated it.

Mr. Harris—The object of this motion was this, that to expedite business, and, as one of the gentlemen here has said, not to go into the correspondence and delay this matter from time to time, let this committee be appointed if necessary; then they make suggestions; let it go to the Directors thereafter on the suggestions that this committee may make, then you will get down to proper business in such a way that you will work in an intelligent manner, and know just what the desire of this convention is.

The President put the motion, which, on a vote having been taken, was declared carried.

Pres. Hutchinson—I will appoint the committee after dinner.

A PROPAGANDA FOR HONEY.

Mr. York—I want to speak on that big word Dr. Miller used, "propaganda."

Mr. Taylor—You are out of order.

Pres. Hutchinson—I think we can hear from Mr. York.

Mr. York—I wanted to go back to the subject before the convention, "The most hopeful field for the Association." Dr. Miller suggested that one of his views was a propaganda for advertising honey. A little while ago I noticed Mr. Abbott was reading a newspaper; perhaps he was trying to look up the meaning of that word.

Mr. Abbott—That means the propagandering among the geese!

Mr. York—I suppose it is a sort of scheme, or system, for advertising honey, and I believe the Association can do a good deal along that line. As some of you possibly know, I am interested in getting people to eat more honey. I think most people here to-day would like to have the demand for honey developed so that they can sell their honey at a better price. I can hardly agree with Mr. Hutchinson in his paper, where he said he thought honey would not sell for any higher price than at the present. I believe when people come to understand the real value of honey as a daily article of food that its price is going to be higher, because there is not enough to-day to supply the demand at the present. For several years I have been endeavoring to get more people to eat pure honey, and I think the Association, if it had a larger membership, could do a great deal along that line, and I believe that the first most hopeful field is that of increasing the membership of the Association. I believe if we had 5000 or 10,000 members, and would send a recommendation to Mr. Benton, in Washington, backed up by that number of members, it would have a great deal

more effect and weight than with 1000 members. I think he made a good suggestion when he said we ought to write to our representatives and senators in Congress when anything relating to bee-keeping, or anything else we are interested in, is up for discussion; and if we could have 5000 or 10,000 members in this Association, and order the General Manager, or Secretary, at a certain time, to notify all members to write to their representatives and senators, they would do it, and it might have great effect. I also believe in working up the propaganda for advertising honey, and that much can be done among the newspapers of the country. They will not do it for me alone, or for you who have honey to sell, but the Association has no honey to sell. If they would get up a line of articles on the use of honey, and mail it to certain newspapers in the country, I believe they would publish it, and it would create a greater demand for honey among the people. You would be surprised to hear the reports I am hearing in Chicago nearly every day about the honey I am trying to put out. Of course, it is pure honey. What will help one will help the whole membership of the Association. I wish the Board of Directors would take up this matter, or this committee that is to be appointed now, and try to get information about honey before the people more generally.

Mr. Abbott—On that matter of propaganda, there is a thing comes to my mind that I intended to say, and I didn't. I heartily agree with Mr. York, and we have before us here a striking illustration of what can be done by a little energetic advertising; and, not to be personal, the illustration is so good I can not help but refer to it. This little book which the Colorado Bee-Keepers' Association, or Mr. Working himself, individually, got out, ought to make the National Association a little ashamed of the only thing it has ever issued in years. It looks very cheap by the side of that beautiful illustration that was gotten up to advertise this meeting, and it has fine half-tones in it, and it is gotten up in good style; and I noticed, when a gentleman came into my office, four or five of them were lying on my desk; the gentleman took one up and looked at it, and said, "What is that?" I said, "That is issued by the Colorado Bee-Keepers' Association." He said, "Could I have that?" "Yes, sir, with pleasure. That is what it was sent for." And they were all called for in a very short time. The last report (referring to the annual report of Buffalo convention), as it appears, and as it is, is as good as we provided money to make it. I am not complaining of Mr. York; he made a real good book for what he got for it, and people are wanting it, and there are inquiries, and in about a month I had 50 inquiries for this book, wanting to know if they could get a copy of it, and there was an opportunity to advertise the Association, and I didn't know where there was a copy to be had. This Association never has had good literature of that kind; it has always been afraid somebody would find out it was at work; it was afraid to let the newspapers know it was in the city. We have gone to great cities and they never knew we were there; and we never had a committee to go and tell the reporters that five or six "queen-bees" had come to town. But there were members live enough here, and, five or six weeks before, let them know, and we were besieged for photographs. And that is what propaganda means. If we could get a little more into the National Association there would be more honey sold.

Mr. Taylor—In talking about propaganda, and that the Association should teach propagandi, it seems to me that one propaganda that covers this question of advertising as well as the question of the price of honey has, so far, not been mentioned. I think that it is in the hands of the bee-keepers, if they will, to raise the price of honey 50 percent over what it is at the present time, if this suggestion would be carried out. I don't know as it will be. We are like that farmer that Mr. Abbott described—we put our thumbs under our suspenders, and when we can get a crop of honey we say, "Let her go!" and we ship it off to Chicago, or some other large city, and let somebody else sell it for us. That is the way I had always done till last year; it is the way most bee-keepers have done; there are a few here and there—no doubt our chairman could name some of them—who, instead of doing that, have taken their honey and their wagons and have gone out and have asked 50 to 100 percent more than they could have gotten in any other way, and they have sold their honey readily, and they have gotten rid of it without any trouble in getting their pay from the commission men or anybody else; they have, at the same time, educated a taste for honey, and they have spread the market, they have enlarged the market. Of course, there are exceptions; there are men who produce so much honey that they could not think of anything of that kind, their honey would go to supply the demands of the cities; but there are thousands of small towns in our country that have no supply of honey simply because the men in the neighborhood of such a town who produce honey of any amount will pack it up and ship it off in order to get rid of the trouble of doing anything further with it. We have an immense market in this country for honey, if we would cultivate it. There is no question at all in my mind that if bee-keepers would take up this point and try to cultivate this market that perhaps the price of honey could be increased 50 percent in a very few years without any difficulty at all. I think we can do more for ourselves than the Government in any way can do for us.

W. L. Hawley—I wish to indorse what Prof. Benton has said with regard to sending letters to your representatives. We have had some experience in that line in sending letters to our representatives, members of Congress, and personal friends, and the influence was such that you would be astonished. Word came out from Michigan, saying, "Boys, do all you can; write from one to a dozen letters a week and keep it up constantly; keep it up." Well, I wrote two letters, then I wrote two more, then I increased it to five, then I wrote five more; I kept that up for the entire six weeks, and I was only one of 15 that did that. Michigan, California, Colorado, Nebraska, and every place where they have a beet-factory, did that very same thing. You know the reason why; there was an agitation trying to reduce the tariff upon sugar on the raw material, and, consequently, we beet-men did not want that. It is the same way with this honey. Mr. Benton says fire 20 letters in. Double that, make it 40, make it 60, 80, 100; you can't get too many there; the more you get there the better; every man, every woman, every child, every bee-keeper, keep it up, and then you will find that your work is accomplished; and until you do that you will accomplish nothing.

The convention then adjourned until 1:30 o'clock p.m.

(Continued next week.)

Contributed Articles.

How to Distinguish a Perfect Queen.

BY DR. E. GALLUP.

HOW to distinguish the difference between a perfect queen and an imperfect one by the looks, shape, etc., is the question. A perfect queen is usually (now mind I don't say *always*) larger than an imperfect one. She has a large and perfect abdomen, tapering and pointed, while the imperfect one has a smaller abdomen, more blunt; and there is usually quite a difference in the shape of the workers; in examining the queen nymph, the one having the "missing link" attachment, and the other not having that attachment, both of the same age, the difference in size is very marked to the most casual observer. Even where both are equally supplied with a large amount of royal jelly, the difference in size is plainly visible after they are hatched, and all their lives plainly showing that the embryo does draw substance through the umbilical cord.

Many queen-breeders notify their customers not to be alarmed if the queen appears small, as she will increase in size after she commences breeding, etc. All those degenerate or improperly reared queens do appear small, and they are small even after they commence laying, in comparison to one rightly reared. I have occasionally had a very small queen that appeared to be prolific for a short time, but they invariably do not hold out for any length of time.

On page 596, W. H. Laws says: "Permit me to say that as great a percent of large, fully developed queens were obtained by the Doolittle method as by any method ever used." In recommending Mr. Doolittle as a queen-breeder, all the queens that I have seen and received from him have been fully developed and large, to all appearances, but the fault found with them was this: They did not prove prolific, and I have repeatedly had to explain why, etc. Years ago I received queens from different breeders, recommended as extra-prolific, but they in no case turned out as recommended. Now, I did not jump at the conclusion that said parties falsely represented their queens as prolific, but I had a theory in mind which was this: That queens shipped

through the mails, after testing, did not turn out prolific afterwards. Dr. Hamlin, of Tennessee, and myself, were having a friendly correspondence, so we came to an agreement to test the matter. I was to ship him a very prolific queen, and he was to return one that he knew was prolific. Well, we exchanged four queens each—not all at once, but at different times—and not a single one of the eight proved prolific. All, without an exception, were very unsatisfactory as to prolificness. I then lived in the extreme north end of Iowa, and the Doctor lived within 6 miles of the capital of Tennessee. Since then nearly all of the queens I have received have been untested.

Of 16 queens last season, only two proved to be impurely mated. I have an impression that a prolific queen, suddenly stopped from laying, even when caged or shipped while breeding up to her full capacity, is injured ever afterwards, for prolificness. But I have not fully tested the above theory to my own satisfaction. Now you can understand my reason for preferring untested queens.

I have received two queens from Florida, three from Louisana, sixteen from Texas, and all were good except two from Texas. Some may say, "All those worthless queens you have received were injured in the mail." Not a bit of it; I know better. It is quite an easy matter for a thoroughly experienced person to distinguish the difference on sight. A number of years ago I jumped at the conclusion that I might as well do up all my swarming in a couple of days as to wait and watch for natural swarming; so I divided and nearly doubled my number. The result was I had 36 queenless colonies in September, and 15 more in the spring. I jumped at another conclusion, and that was that rearing queens in the above manner was thoroughly unnatural, and unscientific.

I have lived long enough to know that some people can learn as much by their mistakes as by their successes. A near neighbor of mine, last spring, had some 15 colonies; he was away at work through the day, and no one at home, so he made his swarms by dividing. This fall he had four queenless colonies, and was wondering to me why he lost so many queens. He said he would look through the hives, and saw that all had laying queens, and shortly afterwards found four of them queenless. He then gave them queen-cells and then more "came up missing." I explained to him that they might as well come up missing, as they were worthless any way he could fix it, and gave him my reasons. Still he has kept bees and ran quite an apiary for several years.

Please carefully read the letter on pages 494 and 495, by Edwin Bevins.

Now, I do not wish to be understood as saying that all queens reared under the swarming or superseding impulse are perfect, as there are exceptions to all rules in bee-keeping as well as in some other occupations. I will say to Mr. Greiner, that I watched that feeble queen and her colony very closely, both inside and outside the hive. The queen was quite feeble, and the bees were so feeble and were dying rapidly both night and day, and the workers were so feeble that they could only drag a dead bee out of the hive and drop on the ground with it; they could never fly off with it as bees from other colonies do.

They reared two superseding cells, and I cut them out and saved them, and they have both turned out fairly well so far, but not extra, for I could not expect the best kind of stock from such a feeble queen. I cut them out hoping that they would rear more, and they did rear more in a manner that I *never* saw before. They lengthened out worker-cells to about twice the usual length, and did not increase the size one particle. On examining them, the embryo lay clear outside of the worker-cell, behind the nymph, and not one particle of royal jelly in the cell behind. I cut off about a dozen and examined them thoroughly; the queen failed entirely, and I allowed two of them to mature, and both hatched out at the same time, and both were the smallest queens I ever saw, not even as large as a common worker. They both lived together for three days on the same comb they hatched on. I then had to move my bees on account of starting to dry fruit near me, and I have not seen them since. Now, you might say, "I told you so; queens under the superseding impulse are no better than others;" but I call them freaks, nothing natural about them.

I informed the Editor, when I commenced these articles, that I expected to stir up a hornet's-nest, and I have not been disappointed; yet I think when the crisis is passed, good will result. Orange Co., Calif.

The Premiums offered this week are well worth working for. Look at them.

Long-Lived Queens and Bees.

BY E. F. ATWATER.

HURRAH for Dr. Gallup's new fad! Long-lived bees are what we need, and such men as J. B. Hall, of Ontario, E. A. Morgan, of Wisconsin, and many others, are working along that line. But as to the difference between the artificially-reared queens, and naturally-reared queens, many will be sure to differ from Dr. Gallup, and I am one of the many, though my experience does not cover half a century.

When located in South Dakota, operating but few colonies, we had "native" stock, and these artificially reared queens produced colonies that excelled the natives almost every time, in pounds of honey produced.

In addition to this, the hardy (?) natives were seriously weakened by "pickled brood," while the Italians were practically immune.

In the several years that I have tried them, the queens reared by Atchley, Doolittle or Alley plans proved their right to replace the hybrids and blacks, and this in spite of the awful (?) handicap—artificial cell-cups, "fuss and feathers."

Upon my removal to Idaho I sold my bees, buying more upon my arrival here, starting with 150 colonies of Italians with naturally reared queens. All these queens of various ages were clipped in April and May of 1901. Upon examining the colonies in April, 1902, I found that fully half of these queens had been superseded by the bees, making it appear that the average life of these naturally reared queens was about two years, although I admit that an occasional queen may live four or five years. Some (inexperienced amateurs) may say that clipping caused the queens to be superseded at this age, but I will say that in South Dakota, having two races, and being able to tell the age of the queens by mating (queens from abroad mated purely, queens reared at home mated with blacks or hybrids), I found the average life of the queen to be about two years.

Now, the larger part of our bees are run for extracted honey, with little or no swarming, and I find, like Mr. Chapman, of Michigan, that it takes a very good queen to live two years, or more, when given an abundance of room for egg-laying.

In May, 1901, I received several queens from different breeders; two soon died, but the others have equalled the naturally reared stock as honey-getters, although it is yet too early to judge of the longevity of the queens themselves. We have the testimony of such practical men as Alley, Doolittle, Hutchinson, and Heddon, that the artificially reared queens are equal, or superior, to the natural ones; and among other observers I may mention F. L. Thompson, A. I. Root, and the Dadants, who have touched on this matter in their writings.

If such men as these, eminently practical, have found no difference in results between queens reared from an egg laid (presumably) in a natural queen-cell, and those carefully reared from worker-eggs or larvæ, then, in spite of the arguments of Dr. Gallup, the great majority of practical honey-producers will continue to rear and purchase queens reared by these artificial methods.

If bees will, in time, rear queens to suit the capacity of the hive, how shall we explain the fact that the Dadants have so little swarming with their large hives?

We have apiaries here where the queens have for years been confined to an 8-frame brood-nest. Surely, these queens "bred to suit the capacity of the hive" can never fill two 8-frame bodies with brood! But, astonishing to say, when given the opportunity, they respond nobly, with 10, 12 or 15 frames of brood.

If the bees will rear a queen to suit the capacity of the hive, where will the limit be found?

More light, please. I am willing to learn.

Ada Co., Idaho, Aug. 16.

Queen-Rearing of 1859 vs. 1902.

BY HENRY ALLEY.

IN the spring of 1859 I first saw a queen-bee. To me it was a big thing. Before the summer was over I had reared my first queen-bees. In those days we knew only about black bees; later on the Italian bees came in, and then queen-rearing grew to a big business.

Well, the first queens I reared, though they were black, proved to be first-class in all respects, and they were nucleus-

reared queens, at that. At that time I knew as much about rearing queens as I now do about building telescopes. But the know-how didn't bother me much, as I never let such small matters trouble me, when I have a scheme to push through. However, I had had sufficient experience with bees to know that if a colony was deprived of its queen the bees would soon provide another. Of course I worked on this theory.

How this must surprise my friend, Dr. Gallup. Why, the idea of anyone rearing good queens by the nucleus system, even before the Doctor got acquainted with bee-keeping! Isn't it funny that such a thing could be done? Such was a fact. After half a century's experience in queen-rearing we can rear no better queens, or, in a word, no improvement has been made in the quality of the queens, notwithstanding the fact that the rearing of queens has been brought down to a science.

In my first attempt to rear queens, a piece of comb 2x3 inches, in which were eggs and quite young larvæ, was fastened to the top-bar of a Langstroth frame by strings. The frame was then placed in a single-comb observatory hive, in which there was glass on either side, so that any movement of the bees could be observed; only about a pint of bees were used.

In those days queens were not reared for sale—merely for experiment and amusement, and that is why a glass hive was used. This was the starting-point in my queen-rearing experience.

In 1860 I commenced to rear queens in 3-frame nuclei. This is how it was done: One of the 3 frames contained brood in all stages, from the egg just laid to capped brood. The 3 combs were removed from a strong colony and all the bees adhering to the combs, minus the queen, were placed in the hive. The bees were then confined to the hive from 12 to 24 hours, and water was supplied. Bees thus prepared would commence to build from 3 to 8 or more queen-cells. As some of the bees would return to the parent hive, when released, other bees were given the nucleus each night for 3 or 4 days. By this operation I at once saw how bees could be induced to rear quite a number of queens on one comb, as I found that each fresh lot of bees given the nuclei would commence a new lot of cells. The bees built the queen-cells in positions of their own choice, and selected either eggs or larvæ for the coming queen.

Now, Dr. Gallup, with all due respect to your opinion and experience with nucleus-reared queens, I want to say that queens reared by the above method were in all respects equal to any swarm-reared queen ever produced. For rearing queens on a small scale there is no better method known than the nucleus system, as above described. In those days no one ever heard of short-lived queens; all queens, as above reared, were first-class.

Now, can any-one give a method so simple, and perhaps so scientific, for rearing a few queens? Does it not come as near Nature's way as it is possible to reach? So far, so good.

But right here comes the trouble in rearing queens on a large scale by the above plan. When the time comes for the queens to hatch, then the trouble begins. It will be seen that if bees are constructing new cells for 4 days continuously, it will be 4 days before all the queens will hatch out. It will be impossible to cut out and save all the cells, if one desires to transfer them to other nuclei, or to the nursery, as the cells are built on both sides of the comb, and many of them are very near each other. So it will be seen that there is a disadvantage in this last method for rearing queens. For the above reasons I had to abandon that method, and adopt the strip-of-comb plan, and have used this latter method many years.

In the days of 1859 to 1870 we knew little or nothing about the "missing link;" more in fact, there was no "missing link." All we then lacked was a way to rear queens so that all the cells could be preserved, and the strip-of-comb method does it. All went well in those days; everybody seemed pleased with the queens they purchased, yet knew nothing about science as applied to queen-rearing; nor did we care to know the scientific part, beyond adopting Nature's way, and by so doing only the most perfect queens were produced.

Since 1870 advancement has been made in many respects in queen-rearing, but when it comes down to the quality of queens no advance has been made. In fact, many queen-breeders are not up-to-date.

Mr. Doolittle says hundreds and thousands are quietly smiling at my statements. I am glad to know this. I always make it a point to keep people good-natured, and if I have succeeded in thousands of cases, as evidenced by Mr. Doolittle's statement, I can only say I am well pleased at the result. I know of many bee-keepers who do not smile at all, and, 'tis "Amen" with many of them. I refer to the class of bee-keepers who write me thus: "Send me a queen-bee. Have bought queens of all the breeders and *never got a good queen.*" Who does this strike? The names of these people are all new to me; not one of them has ever "smole a smile" at my statements.

I have no time to reply to Mr. Doolittle's article on page 569, but I will do so before spring. In fact, I don't know that I can get time to write all that is necessary on the subject of queen-rearing. It is the biggest and most important subject connected with bee-culture, and volumes can be written. I will say, however, that I am ready to back up any statements I have made, notwithstanding Mr. Doolittle takes no stock in them.

Dr. Gallup also remembers me when he says, "I have two queens of Alley and they petered out before spring." Does any one who has had any experience in queen-rearing and shipping queens see anything unusual in this? I have reared queens as Dr. Gallup says they should be reared (the correct and Nature's way), and they didn't even peter in; they were worthless, and of course were destroyed as soon as tested. The queens I sent to Dr. Gallup were reared by the method I am now so strongly condemning. The methods then used were long ago abandoned by me, but other queen-breeders still use them. I call upon those who have purchased queens of me in 1902 to speak of their quality; yea, I call upon those people who have written to me the past summer to say the same in public as they say to me privately, as to the quality of the queens I have sent them in years past. [Of course the American Bee Journal is not going to publish a lot of testimonials for any queen-breeder, unless paid for at regular advertising rates.—EDITOR.]

Now, all queens sent out, however reared, do not prove to be good ones, but of this and the reasons why, we speak later on. Dr. Gallup knows as well as others, that the fault of this "petering out" is not always the method of rearing queens. Why, bless you, Dr. Gallup, bees are subjected to diseases as well as the human race. We all know, too, about how queens are treated in going from Massachusetts to California in a mail-bag. Such treatment may improve the quality of the queen, but I cannot think so.

One more reference to Dr. Gallup and Mr. Doolittle: Mr. Doolittle would have the readers of this paper to understand that he can rear good queens as he "learned the trade" of Dr. Gallup (page 579). Now, Dr. Gallup says on page 585, that "Mr. Doolittle's queens fail the second season." How's that, gentlemen? Doctors seem to disagree. At any rate, I can't seem to make the two statements harmonize.

When Dr. Gallup says my queens fail the second year, that is, if he includes any number of them, he makes a decidedly wrong statement. Some queens do fail the second year, yes, some fail the first year, and they will continue to do so, and it won't matter who rears them, or how they are reared.

I first observed the lump of royal jelly in the cells of the first queens I reared, and I am not only "on to" that point as indicating good queens, but on to many others that no one has mentioned, and none of them are new to me.

Who is getting bit when Dr. Gallup and Mr. Doolittle speak about rearing queens in nuclei? Surely it can't be this man, as I was obliged to abandon that system years ago, that is, long before any bee-keeper of the present day knew anything about rearing queens. If it were practical to rear queens on a large scale by the nucleus system I surely would use no other method, as I know by actual experiment that just as good queens can be so reared as can be reared by any method ever given the public.

Now, the reader can easily decide whether or not I am right, by simply testing the nucleus system. Try a few queens by the nucleus plan given at the beginning of this article. Of course, this statement does not agree with the theory of Dr. Gallup, but it is an easy matter to prove or disprove my theory early in the year 1903.

I am not writing for the fun of it, but am in dead earnest in what I say, and I'll risk my reputation as a queen-breeder on the result. Essex Co., Mass.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get them subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Sulphuric Acid for Cleansing Beeswax.

How much acid should be used for 25 pounds of wax? Is it put in water or wax for cleansing? MICHIGAN.

ANSWER.—Sulphuric acid is the acid used in cleansing wax. Ordinarily about one part of acid is used to every hundred parts of water. If little cleansing is needed half as much acid will do, and twice as much may be needed if the wax is very dirty. Put the wax in the acid solution and heat all to about 180 degrees, Fahr., and keep it hot half an hour; but look out it doesn't boil over.

Honey-Plant for Railroad or Wagon-Road.

What plant would you name for a deep cut on a railroad, and also on highway wagon-road? I sowed sweet clover, but the bees do not seem to work on that freely for a long time. MICHIGAN.

ANSWER.—Most emphatically I should say sweet clover is the right thing either for a wagon-road or a deep cut on a railroad. With enough of it I should have little fear as to the bees working on it. Not many plants will grow well in the subsoil of a deep cut, but sweet clover will grow there luxuriantly. It is not at all likely that you can secure a good growth of catnip on a roadside or in a deep cut, but, if you have hedges, sow catnip directly in the shade of the hedge and it will flourish.

Getting Bees Out of a Chimney—Feeding for Winter.

1. I have a colony of bees that are in a chimney, that is not in use during the summer, only in winter; they are not very far down from the top, about 4 feet. How can I get them out? I would like to save the bees, and keep the honey to feed the rest of the bees.

2. I have quite a few unfinished sections, and would like to know whether I could feed it back to the bees. Would they clean them out, so I could save them for another season for bait-sections? About what time could I feed them back before very cold weather?

3. How much honey should a colony of bees have, to last them from October until the following May, without feeding them? I am going to winter my bees out-of-doors in light chaff hives. How can I fix them over the brood-frames? And what shall I use for packing.

NEW YORK.

ANSWERS.—1. Without being on the spot it is a difficult thing to say what is the best plan, and even when on the spot it is not easy, as each case is a separate problem. The best way would be to tear away the chimney sufficiently to reach the bees, but most likely that plan can not be considered. Possibly something like this might be tried:

Make enough fire below to smoke the bees so they will fill themselves with honey and be perfectly subdued, but of course there should not be so much fire and smoke as to make the bees fall down into the fire. Then with some kind of a tool such as is used in tile-ditching, reach down from the top of the chimney and take up what you can lift, combs, bees and all. Continue this till you have got all out. It will not be a nice or satisfactory mess; the honey will be mashed, the bees will be daubed, and some of them killed; but the honey will at least be good for feeding, and very likely the qeeen will be safe.

If any one can suggest a better plan, he can have the floor.

2. Any day when bees are flying you can get the bees to empty out your partly filled sections. Put the supers of sections in a pile of five or six supers each, closely cover up, only allowing a place for one or two bees to enter at a time. Let the bees still have them for a day or two after they have emptied them, so that they will make a thorough job of getting them cleaned.

3. They ought to have had 30 pounds or more of honey. Lay a piece of burlap or other open cloth over the top-bars, and then put your packing on top. If you can get cork-dust, nothing is better for packing. Dry leaves, planer-shavings, chaff, etc., are also good.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

TWO QUEENS IN A HIVE—SHAKEN SWARMS.

Two queens in a hive, *a la* page 601, are indeed exceedingly handy for dividing.

Twelve years is quite a long lesson; but doubtless there are still some in-plain-sight lessons unlearned when a man has kept bees for more than 12 years. Mr. Housel is very likely sound on black hybrids for fine comb honey—*if he thinks so*—no bee is worth a cent if his boss thinks ill of her. Page 602.

It's a phrase to conjure with, "shaken swarms," or would be were it not for that dreadful "sometimes." Sometimes look a little out for infuriated bees and a grist of queenless colonies. Page 605.

WHAT CAUSED THE POOR HONEY CROP?

"Nothing but the bad weather has prevented an unprecedented honey crop." Page 604. When Mr. Knowles has conned his book 12 years over that lesson he will have an inkling that there is a mysterious *something* back of the weather.

But I'll admit we have had some fantastic weather this year of grace 1902, and plenty of "something," too. As per page 607, it's famine to the extent of stopping brood-rearing, then rush of nectar filling the empty brood-nest full, then dearth again to keep a normal-sized brood-nest from ever getting started. Three such items constitute a queer situation.

THAT SWEET CAPITOL AND MAST-HEAD INDEX.

The Capitol as a bee-palace, eh? Would that all capitols might be as sweet-savored internally, and furnished with as ready weapons against impudent wrong.

And say, that new plan of having a mast-head index of special things to be found inside is not a bad plan. Page 609.

WHEN THE HEAT OF THE DRONE IS HELPFUL.

It is true that the poor drone makes heat and wastes most of it on the summer air, and that what he makes in the hive is mostly when there is too much heat there already. Just once, however, his heat may come in proper-good play, and that's the first night or so after swarming, in which performance the workers mostly depart and the drones mostly stand by the old home. Page 611.

CREMATING FOUL BROOD.

Not so sure that Ernest Root's cremation, on page 611, is entirely absolute. What's to hinder some individual bees from alighting on the damp leaves of adjoining brush, sticking there till morning, and then for want of a home wandering off and carrying that many drops of infected honey into the nearest hive? Still, the disposition of most insects to dash at a light may save the situation.

WIRING FOUNDATION IN FRAMES.

As to the frame shown on page 615, I suppose the droop of the wires was drawn much exaggerated lest the reader might not notice *any* droop. The impression first made on my mind was: Here's somebody who thinks drooping wires will hold up foundation better than straight ones. Guess that's not the idea. Rather, wire with a moderate pull, not hard enough to spring the ends, and tighten moderately by pulling down the wire while imbedding. If that's not it, Mr. Greiner can get back at me. Very drooping wires would hardly resist swaying bodily over to one side as well as tight ones.

GENERAL ITEMS

Treatment of a Laying-Worker Colony.

I notice on page 659 that it is advised to break up a colony of laying workers. It is also the advice of Dr. C. C. Miller. This may be the proper way for some, and perhaps there are many that adopt that measure, but I fail to adopt the advice. I have another method which is much better.

First, finding the colony with the laying workers, I take from the center of the hive three or four combs, shake the bees off on the ground in front of the hive, and go to a nucleus and take the two combs the queen is on, having her between the two combs, then take all of the remaining combs and shake all the bees on the ground in front, handling roughly all the way through, and after all are gathered together again in the hive, give them a little smoke and leave them to themselves, and I have yet to find the first loss—successful every time.

I served six colonies the same way last season, and all were a success. Last week I did the same way, and "Mrs. Queen" is all right and doing well. I think it is preferable to breaking up the colony, and I have never met with a failure. I admit I handle them roughly, for I have lost many valuable queens by old methods of introducing, and I got very much provoked at a colony that killed two nice queens, and used this method at last, and succeeded. A. Y. BALDWIN.

Dekalb Co., Ill., Oct. 18.

Poorest Season in 32 Years.

This is the 32d season that we have been engaged in bee-keeping, and the first one that we have secured no surplus. The most of our colonies have enough stores for the winter without feeding.

In our experience with bee-keeping it compares very favorably with other agrarian pursuits, far ahead of fruit-culture. Not a peach in Peoria county; six years our trees did not bloom. MRS. L. HARRISON.

Peoria Co., Ill., Oct. 17.

The General-Managership Matter.

The American Bee Journal for Oct. 9 has come to hand, and I notice what is said on page 644 by Mr. Moore, and the nominations made by him for General Manager, and having been in close touch with several of the officers and members who have had most to do with "the discussion about the General Managership" for the last eight months, I believe I am in a position to know more about the "spirit that seems to have animated some of the officers and members" than is Mr. Moore, and having had a personal interview with him a few weeks since in my own home, I am satisfied, yes, I may say that I know, that he is mistaken when he even intimates that an "unfriendly spirit" has "animated" any one, with possibly one or two exceptions, and I can't possibly see why "the results of the discussion," even "if continued" (of which there seems to be no prospect), should in any way detract from the usefulness, or lessen the number of members, or the efficiency of the Association.

I see no necessity for any "appeal to the membership" "in the interests of harmony" "to decide this question," or any other matter, for "the will of the majority" ought always to govern in any matter of policy, and had such a rule been accepted months ago by a very small minority, no "unkindly spirit" would have been developed by that minority; and why any "personal feeling or animosity" should be indulged in by any one, is beyond my comprehension, but such statements of Mr. Moore's as I have quoted might have,

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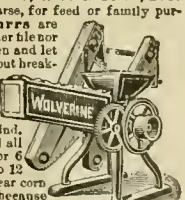

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and doubtless have, a tendency to awaken such a condition.

Why two or three persons should insist on having their own views adopted when scores of those who are equally intelligent and well-posted think they should not be, I can't understand. It is very evident to me that Mr. Moore has not heard both sides, for if he had he would not have said what he has.

Lucas Co., Ohio. A. B. MASON.

Bee-Keeping in Connecticut.

I feel it my duty to use my pen in behalf of others as they have done for me. So I will start off with the production of section honey. I am an advocate of calling the three forms of honey produced in the apiary thus: Section honey, in sections; comb honey, in the combs, or as you would cut it out of an extracting frame; and extracted honey, in the liquid form. I believe in calling section honey "section honey," but I do not like the term sometimes used for comb honey—"chunk honey."

From Sept. 15 to Oct. 20 is the time to begin to prepare if you would get good results the following season. You should see that your bees have plenty of good honey and pollen. Put a division-board on each side of the brood-combs, then stuff old bags or anything of that sort on the outside of each division-board between the side of the hive. Now put the super on, but do not put a chaff cushion in them, or anything over the frames until the bees have fastened the super firmly to the brood-chamber. When they have glued all air-tight put four short sticks over the frames about ½ inch by 6 inches long, and place the sticks so they will be 4 inches apart; then put two thicknesses of burlap over them, then the cushion stuffed with chaff—that which blows farthest away from the fanning mill. Now place on the cover, then stand boards slanting up against the entrance from the ground. With the protection and a good quantity of honey, we will have a good force of young bees and brood in the spring, which we can not procure without plenty of good honey and protection.

We will say it is the first of March; gently tip the hive up and look through them from the bottom, spreading the frames if necessary to see to the middle, and if you see no brood notice the quantity of bees, pollen and honey, and if plenty of the three do not be alarmed, but clean the bottom-board and wait a week or ten days, and examine again, noticing the three things mentioned above, and if no brood let the hive down, providing the results are the same as at the first examination, namely, honey, pollen and bees.

I would examine them again about the first of April, and if no brood, but plenty of honey and pollen, I should then give them a frame of brood from each of three different colonies, giving three from the poor one that has some honey in place of the brood taken. Now, after you have satisfied yourself that all colonies have a good, laying queen (which you can very easily determine if you have followed these instructions, as each and every one that is worthy of the name queen will be making great strides toward preparing the colonies for the production of section honey, or any other kind), and those that have no queen you have provided for so they can rear one. I say, *do not bother them*, if you do not want your labor thrown away, as in the spring, when the weather is chilly, by opening the hive you may destroy thousands of eggs, larvæ, and brood. I will tell you why, as probably the beginner would wish to know how so much damage would be done in so short a time. Take an incubator, and put it where it is cold (but not windy); turn up the lamp and see how high the temperature goes, which will be about 98 degrees; no matter if it goes to 105, as long as you have on every bit of heat you can put on (we will call it 98, which is near right). Now, if you open the door only as long as it takes to open a hive and take out two or three frames, note the temperature, which will be several degrees lower, shut the door, and you will find that it will take several hours to register 98 degrees again; and if it is near sundown your machine may not register 98 before the next day at noon, or at the warmest part of the

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7000 lbs. Extracted Basswood Honey, stored in basswood barrels and kits. Large barrels each holding 330 lbs. net; ½ barrels, 180 lbs.; kits, 33⅓ lbs. Prices—7½c per pound in barrels, and 8c in kits, f.o.b. cars at Viola. Cash must accompany order. Sample by mail, 10c. Address,
41A13t N. L. HENTHORN, box 83, Viola, Wis.
Please mention Bee Journal when writing.

DAIRYMEN ARE DELIGHTED
to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.
Please mention Bee Journal when writing.

Wanted Comb and Extracted Honey!

State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

One-Two-Three!

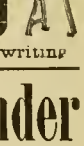
Time's up for you to try one strip of PAGE Fence. It has been so satisfactory to so many farmers, we believe you'd like it.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
Please mention Bee Journal when writing.

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich
Please mention Bee Journal when writing.

THE DANDY BONE CUTTER

will double your egg yield. Thousands of poultry raisers say so. It costs less, turns easier, cuts faster and lasts longer than any other. Price $5.00 up. Sold on 15 Days' Free Trial. Send for book and special proposition.
STRATTON MF'G. CO.,
Box 21, Erie, Pa.



Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

Please mention Bee Journal when writing advertisers.

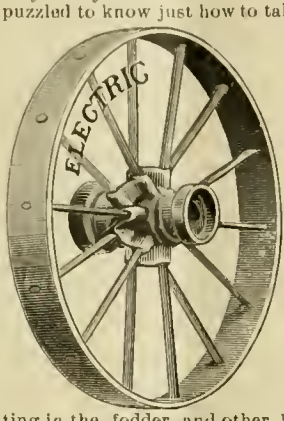
day. Now, if it requires from 98 to 100 degrees inside of the hive (or about the cluster), what would be the result to open the hive and allow the temperature to fall to 60 degrees? And suppose we have a very cold night, the bees may draw up together in a more compact form than they were and leave the brood to perish, or they may stay spread out and try to protect the brood and perish with it; thus you see it is with the bees as with the incubator, it must become several degrees warmer on the outside before it can affect the inside; the same rule holds with the bees. All must wait for Nature to turn a bright smile on us, which, by our foolish fussing, may cause the destruction of thousands of our first field-force before she shines on us again. So, again, I say, *don't bother your bees.* Only on warm days, when they can fly freely, and not then if you know the colony to be in the aforesaid condition, queen, honey, pollen, and bees.

I have a way of feeding back partly filled sections, which, if there are other bees in your neighborhood, or in robbing time, can not be excelled. The way I proceed is to move the colony on the bottom-board far enough to leave a ⅜-inch space open at the back. Now take the box or hive-body, or, perhaps, your hives are on the ground, but no matter, all that is necessary is to place a bottom-board at the back of the hive, and close up to the other bottom; be sure to have the bee-spacing cleats on the bottoms come just even in height and square. Now, place a hive-body on the two, and if you have arranged them properly the body will sit on the two bottoms. Move the body forward enough so that there will be a ¾-inch space at the back and bottom of the brood-chamber, and ¼-inch space at the front and bottom of the hive-body. This ¼-inch space should be on the inside of the empty body, which I, when so arranged, call my "back feeder." Two or three hive-bodies may be used in placing one on the other by covering crosswise the hive which contains the colony. I have fed back from brood-combs 37 pounds, and secured 22 pounds, net weight, in sections with drawn combs to start with. This colony has about 9 pounds in the brood-combs more than the others; this shows that 31 pounds out of the 37 were placed in the combs of honey to be placed in the hives over and above the other colonies that sit on the same bench. This

FENCE! *STRONGEST MADE.* Bull Strong, Chicken-Tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO. Box 89 Winchester, Indiana, U. S. A.

40Etf Please mention the Bee Journal

Hauling Corn-Fodder.—With the biggest and perhaps the heaviest crop of fodder ever harvested, and with the fields cut up as they are by the unusual fall rains, farmers are puzzled to know just how to take care of their fodder. In this emergency we want to call your attention to the low-down broad wheel Handy Wagon made by the Electric Wheel Co., of Quincy, Ills. This wagon at all times is one of the most convenient and useful articles a man could have on the farm. Is particularly useful in getting in the fodder and other late, fall work. Most of our readers who have used this wagon are profuse in their praises of it. Some say they would not be without a handy wagon for three times what it cost.



Those of our readers who do not feel that they wish to make the necessary outlay to buy one of the wagons at the present time, may have a low-down, broad-tired wagon by simply buying a set of the Electric Wheels such as are shown in the cut. They are made in a great variety of heights, and are made to fit any wagon. The simple removing of the old, high wheels and substituting a set of the Electric's makes a handy, convenient, low-down wagon at a very small item of cost.

All the goods turned out by the Electric Wheel Company are made of the best material, and they are the kind of people we have talked so much about in the past. That is to say, they are wise enough to know that the way their success has been achieved is by making every buyer a loyal enthusiastic exponent of their goods.

We suggest that you get one of their free catalogs, and see if their proposition does not impress you as being a particularly good one at this time of year. Write for the catalog to-day, and please mention the American Bee Journal when writing to them.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.20	2 30	5.50	10.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL

BINGHAM'S PATENT SMOKERS
24 years the best. Send for Circular.
25Atf T. F. BINGHAM, Farwell, Mich.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.25 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

Please mention Bee Journal when writing advertisers.

ARLINGTON SEWING MACHINES ARE EASIEST RUNNING BECAUSE BALL-BEARING.

$14.75

Elegant Polished Swell Front Oak Cabinet with or without Italian Marquetry Decorations.
Latest and most stylish design.
Guaranteed for 20 years.

250,000 DISCRIMINATING WOMEN

Everywhere are using (many of them for seventeen years past) the

Celebrated Easy Running Ball-Bearing No. 9 Arlington

The acknowledged triumph of the craftsman's skill and the finisher's art.

SEND NO MONEY

Made only from the most severely tested material.
Just go to your nearest banker or responsible merchant, deposit with him the purchase price of this machine and send us this **Certificate of Deposit—or a copy of same on a separate sheet:**

OUR LIBERAL NO RISK CERTIFICATE OF DEPOSIT

This Is to Certify
THAT Mr.....of Town.....State.....
has deposited with the undersigned the sum of $14.75 in payment of No. 9 "Arlington" Machine ordered of the CASH BUYERS' UNION, of Chicago, with the understanding that this money is to be held by me for 30 days, while the purchaser gives the machine a trial at home, and is to be sent to the CASH BUYERS' UNION at the expiration of the 30 days, unless the purchaser is dissatisfied, in which event I am to refund the money to the purchaser on presentation of Bill of Lading, showing the return of the machine.

30 DAYS FREE TRIAL Signature of Banker.....

Date..... Town..... State.....

The **Arlington** is a double lock stitch, vibrating-shuttle machine, **high grade, highest arm,** containing the most modern improvements, equal to the **Singer, Domestic, New Home, Wheeler & Wilson and other machines** sold through dealers at from twice to three times our price. Mounted on **BALL-BEARING STAND**—doubling its speed. The cabinet work is our **new model 5-drawer** Drop Head Cabinet in the latest and most popular design. **Swell front,** made of select oak, finished with a beautiful mirror-like **antique golden oak finish** and handsomest **marquetry** decorations. With every **BALL-BEARING ARLINGTON** we furnish FREE the handsomest and most complete set of highly polished Nickeled Steel Foot Attachments affording endless variety of work. **$14.25** **Estab. 1885. 250,000 machines sold. Testimonials from every state.**

We can furnish you almost **Any Kind or Style** of a machine at a saving of from **$10 to $45**

Write for our complete Illustrated Catalogue, showing every style and sample of work. Address all orders and letters plainly to

DIRECT FROM FACTORY SOLD

Immediately on receipt of this certificate we will ship this regular $65 strictly high-grade **Ball-Bearing ARLINGTON** Sewing Machine on **30 Days' Trial** as above explained

NOTE—If you send **cash in full** with your order we will refund your money, including the freight charges, if at any time within **one year** you become dissatisfied with your purchase for any reason.

THE BALL BEARINGS prevent friction and afford absolute ease to the operator. The balls are large size made from fine tool steel and run in an oil tempered steel cup which is adjustable.

PROMPT SHIPMENTS
There will not be any delay in filling your order, we have the machines, thousands of them, all tested and crated ready for shipment.

CASH BUYERS' UNION, Dept. M 609 CHICAGO, ILL.

The Cash Buyers' Union is a thoroughly reliable concern. Its announcements have appeared in this paper from its very beginning. Thousands of machines have been sold to our readers and we add our guarantee of satisfaction to that of the Cash Buyers' Union.—Editor.

☞ IT IS VERY IMPORTANT THAT YOU MENTION THE AMERICAN BEE JOURNAL WHEN WRITING TO THE CASH BUYERS' UNION. PLEASE DO SO.

colony was at work in the fields at this time, and so were the others.

My bees are in Danz. hives. They have averaged, up to date, 56 pounds per colony, or 140 pounds apiece for the two that I managed to save out of six after a 12-mile move in the spring. Those two were in the best shape I ever knew bees to be in at that time of the year (March 26), but the others were only fair, but soon went almost like the wind (with a rush); but I am well satisfied with the result. I will close by giving a leaf from my diary:

LIST OF BLOOM.

Pussy willow (pollen)	March 10
Soft maple sap	March 12
Pollen from maple	March 28
Soft maple and elm bloom	April 8 to 12
Brook willow	April 25 to 30
Plum (pollen)	April 25 to May 5
Cherry	April 27 to May 9
Apple	May 6 to 15
Dandelion	May 9 to 20
Sassafras	May 12 to 18
Red clover	May 25 to June 18
White clover	May 28 to July 10
Locust	June 1 to 10
Pigeonwood	June 1 to 6
Yellow-head clover	June 10 to 30
Whitewood	June 17 to 23
Chestnut	July 1 to 12
Sumac	July 13 to 24
Basswood	July 13 to 20
Woodbine	Aug. 1 to 12
Buckwheat	Aug. 10 to 29
Boneset	Aug. 22 to Sept. 10
Heartscase	Aug. 29 to frost
Goldenrod	Sept. 1 to 20
Aster (fall)	Sept. 10 to frost.

ROBERT J. CARY.

Fairfield Co., Conn., Oct. 4.

The Burning Bush

An Illustrated Weekly Paper for all Classes.

It contains food for the hungry, throws floods of light into darkness and upon the depravity that so generally abounds, and maintains an uncompromising war against all sin. All that is of prime importance in the realm of spiritual thought and action is ably presented and attractively illustrated by men who have the gift, and at least some of the gifts, of the Holy Ghost.

This periodical fills a unique place in the field of literature, and is of such a nature as to make it interesting and profitable to Christians of all denominations.

Price, $1.00 per year. Samples free. Special terms to agents. THE BURNING BUSH,
223 NORTH KEDZIE AVE., CHICAGO, ILL.

"IMPROVED QUEEN-REARING,"

Or, how to rear large, long-lived, prolific queens. A new work, giving in minute detail all the latest improved methods. Illustrated. No fault found with my queens in 1902. I challenge the world to equal queens reared by this new process; queens live from three to five years. Send for prospectus.

44A2t HENRY ALLEY, Wenham, Mass.

Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

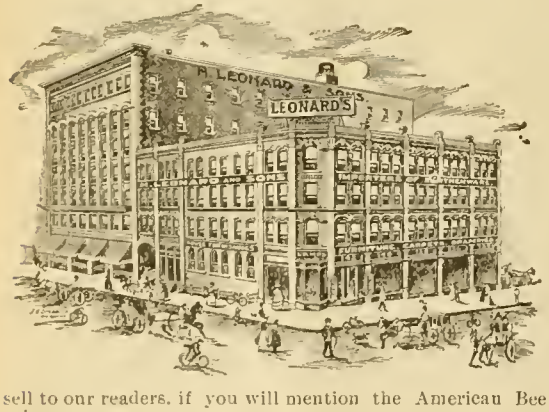
GEORGE W. YORK & COMPANY,
Chicago, Ill.

FOUR PERSONALLY CONDUCTED EXCURSIONS FROM CHICAGO, COUNCIL BLUFFS AND OMAHA TO CALIFORNIA WITH CHOICE OF ROUTES.

These excursions leave Chicago every Tuesday, Wednesday, Thursday and Friday at 11:30 p.m., and Omaha every Wednesday, Thursday, Friday and Saturday at 4:25 p.m., in Pullman Tourist Sleeping Cars, **over the Union Pacific.** The cars are accompanied all the way by conductors skilled in the service of excursion parties. The **Union Pacific** is the only line from Omaha running four excursions to California every week.

These excursions can be joined at any point enroute.

For full information call on or address W. G. NEIMYER, G.A.,
193 South Clark St.,
Chicago, Ill.



Buy by Mail. — Doubtless many of our readers have adopted the custom of buying direct from large mail order institutions for various and good reasons, particularly because the mail-order houses issue magnificent catalogs which may be perused carefully, and the greatest thought and consideration given before the purchase is made.

Your local merchant buys his goods in a way commonly called "at wholesale." It has always been supposed that he had the advantage of the consumer, but things have changed, and we are pleased to present an illustration of a large establishment in Grand Rapids, Mich., who sell to our readers, if you will mention the American Bee Journal, at absolutely wholesale prices.

The firm of H. Leonard & Sons, to whom we refer, have been in business a half century, but have hitherto confined their efforts to the wholesale trade. Now they are selling direct to the consumer, and if you will write them at once they will mail you a copy of their Holiday Catalog containing a selection of household goods suitable for Holiday purposes.

Your dealer buys his furniture in Grand Rapids because it is the largest furniture manufacturing city in the world. You have the opportunity in dealing with this firm of buying at the same prices and in the same way. It is safe to say that you would save at least 25 percent, and in many cases more, on anything that you bought from H. Leonard & Sons. Please mention the American Bee Journal when writing.

Please Mention the Bee Journal when writing Advertisers *****

What Yon Yonson Thinks

Vell, dom big bee mans dom bean to see Dr. Gandy, an dom find he bean offul nice feller. Catnip, he bean all rite for ideal bee-keeper, but dat feller don't vas born yet; mebby him goan to com from Sveden. And de catnip, he don't vas growed very much yet eder. Vell, dat bean plenty bad, but now don't cry, an ay tank ve can fix it up all rite.

Ay bean have catnip here in Illenois for 20 years; he don't bean much for cats, but dom bees dom vork on him all summer every year, and dom don't vas tierd of him yet. Ay bean sow him in brush-piles an hedges, an old rale fens, and he grow plenty nice, an dom bees hav blenty big time ven every ting els bean pleay out, an ven da bean plenty bass trees and clover, dom don't hardly hav time to vate till dinuer bean ready, but dom don't tell catnip to go vay back und sit down, but dom like him catnip yust so gud some nutting else; but dom never bean give me an pure catnip honey in de up stairs. Ay tank ma be it bean so gud dom feed it to dom little bees down stairs, but das year dom put some in de up stairs for me, but dom bean kine o' triky, an mix him ma smartveed honey; mebby dom tank ay git smart nuf to sow more catnip. Men, my ying, it bean awful good hunny—youst white like paper, an ven ve ete him it youst go down like to poor vater in a rat hole.

Las fall ay bean plant von aker in to catnip. Ay bean sow him tre times alreddy, an ay goan to sow him vons more, den him surely moste com up plenty much nex summer. Dom seed bean so fine it moste be more as a million in von ouns, an any von can sow lots many places ma 50 cents a vort of seeds, and dom ole brush-piles and ole fens som look so bad can yust so vell be in catnip. Course, it don't be nuf, but you better believe dom bees bean plenty tickled ven da don't be nutting elst to vork on.

Now, ma name bean Yoo Yonson, ay bean kech bee-fever from A. I. Gleanings bout 20 ears ago. Gleanings he bean a offul nice ole man, an he sen me a b c d book, an ay kech bee-fever plenty bad. But Gleanings he plant so much onyuns he bean plum cured by das time. But ay tank if he stay in mishegan and see dom bees vork on rossberrys an buckveat, an now meby he goan to plant som catnip. Den I is fraid he goan to have touch of bee-fever agin.

Bout six seven years ago ay git some prise taker sets of Gleanings, an ay rais offle big onyuns, but dom don't kin cure bee-fever on svede man. Now ay don't bean som offul rich like Young Morgan or Vanderbilt, but ay got von billion dollars nearer nuf dan all dem big mans put together. Now ay bean have plenty big orchard 1800 trees, pears, an all kines of frute. Now ay bean goan to take tre four akers for experment station. Ay bean got alreddy lots of rossberrys. My bees svarmed on rossberrys das year. Ay got catnip, sveet clover, fig wort, an some odder kines. Nex year I goan to have some cleome, an som phacelia. Ay tank if it pay Celia it mebby pay Yon Yonson to. Ay goan to make big experment ma rossbers. Som hav ful ma blossoms all summer, tree four kines. Ay goan to give you fellers all de essence. Course Yon Yonson he git de honey essence, dat mean experence boiled till it bean all dryed up on priut in merican bee-paper.

Dom big bee-mans dom don't got time to fool ma catnip or any kine of honey plants. Dom youst rassel ma dem selves bout queens and diferus hives, an dom don't fine out yet dat de bees don't can yust roll in de honey ven da don't bean any honey to roll in.

Mr. New York, vot make das bee-paper, he live in chicago, an don't hardly hav room to hang his hat up on de vall, it yust bean town all over, an dom houses bean so tick dom houses purtneer to run over each odder; an he bean so bissy to mak das bee-paper, an he have so big apatite for new subscribers, he don't could vork in de garden. So dom all hav to depend on little bee-mans lak Yon Yonson to settle das bisnes bout honey-plants. Coggshall he put locality first, an man he

come in for putty close secont. Course he bean rite, but he don't go for nuf. Yon Yonson he say if man don't hav good locality he don't bean in it atoll, an he goan to git left ever time.

Dr. Gandy he say any place can be good locality if ve so nuf sveet clover and catnip. Course he bean rite, too, but he don't go fur nuf eder. Ay say, ve moste have lots nm rossberry, catnip, sveet clover, alsike or vite clover, smartweet, or buckwheet; den if ve can have odder good plants and buss trees, and den have good quvens, ve sure goan to bean in it evry year. Don't you tank it bean better to have lots of honey if it do cost some ting, den to cost notting an git notting? Ay tank ve can rais alfalfa in Illenois yust so gud some noplace elst. If all dom fellers vat live in Illenois vil send to experiment station, Urbana, Ills., an ask dom to sen your Bullentin No. 76, it tell all about alfalfa in Ills. He bean offul nice book ma 40 side, an you git it fre for nutting. If you ask dom to put your name on mailing list den, you git dem rite long. Ay been git dom long time.

If it don't rain ay bean com over nex veek.

Yours for luts of honey.

YON YONSON.

CONVENTION NOTICES.

Chicago - Northwestern. — The executive committee of the Chicago-Northwestern Bee-Keepers' Association have planned to hold the best convention ever convened in Chicago. The date is Dec. 3d and 4th, Wednesday and Thursday. Five eminent bee-keepers have been invited, and are expected to attend. More definite announcement later. Watch for it. Reduced rates on account of the fat stock show, which is held Nov. 29th to Dec. 6th.

HERMAN F. MOORE, Sec.

Illinois.—The 12th annual meeting of the Illinois State Bee-Keepers' Association will be held at the State House, Tuesday and Wednesday, Oct. 18 19, 1902. On account of the Odd Fellows' meeting at the same time, the fare on all the roads in this State are quite sure to be an open rate of one fare for the round trip. We always have an open, free discussion on any and all subjects interesting to bee-keepers.

JAS. A. STONE, Sec.

Route 4, Springfield, Ill.

A New Bee-Keeper's Song—

"Buckwheat Cakes and Honey".

Words by EUGENE SECOR.

Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by

EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

GEORGE W. YORK & CO.

144 & 146 Erie St., - CHICAGO, ILL.

SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.

DRAPER PUBLISHING CO., Chicago, Ills.

Please mention Bee Journal when writing

BEE-BOOKS

SENT POSTPAID BY

GEORGE W. YORK & CO.,

144 & 146 Erie St., - CHICAGO, ILL.

Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 541 pages. 295 illustrations. Bound in cloth. 1902 edition—19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

A B C of Bee-Culture, by A. I. Root.—A cyclopedia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 60 cents.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, bound in cloth. Price, in cloth, 50 cents; in paper, 30 cents.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cents.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Bienen-Kultur, by Thomas G. Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00.

Dr. Howard's Book on Foul-Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. Price, 30 cents.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.

THE FRED W. MUTH CO.

32Atf Front and Walnut, CINCINNATI, OHIO.

Please Mention Bee Journal when writing advertisers.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Oct. 9.—The advance noted in our last quotation has been maintained and there is a very good demand for honey at the present time. No. 1 to fancy white comb brings 15@16c per pound, with the lower grades selling at from 2 and 3 cents less; this includes the light amber. Dark grades of amber sells at about 10@11c, and buckwheat 9@10c. Extracted is steady with white bringing 6½@8c, according to color, flavor and quality; the amber brings from 6@7c; dark, 5½@6c. Beeswax in good demand at 30c.

R. A. BURNETT & CO.

ALBANY, N. Y., Oct. 18.—The market is having the best demand for honey it ever had, largely on account of the near-by bee keepers' colonies having been destroyed by foul brood and State officers. We quote fancy white comb, 16c; No. 1, 15c; mixed, 14@15c; buckwheat, 13½@14½c. Extracted, buckwheat, 6@6½c; white, 7½c; mixed, 6@7c. Beeswax, 30c.

H. R. WRIGHT.

BOSTON, Oct. 20.—Our honey market remains firm, with good demand and fair stocks on hand. Honey is not coming forward as fast as usual, and the tendency of prices is steady. We quote our market as follows: Fancy white 1-pound sections in cartons, 16c; No. 1, 15c; No. 2, very light supply, 14c; glass-front sections generally one cent less than this. Extracted, light amber, 8c; amber, 7½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Oct. 20.—The receipts of comb and extracted honey are light, and demand steady at quotations: Fancy white comb, 14½@15cc; No. 1 white, 14@14½c; No. 2 white and amber, 13@13½c. White extracted, 7@7½c; amber, 6@6½c. Beeswax, 24@26c.

C. C. CLEMONS & CO.

CINCINNATI, Oct. 4.—The demand for extracted honey is good at the following prices: Southern and amber sells at 5½@6½c; better grades, 7@8c. Comb honey is scarce; fancy and No. 1 sells on arrival at 16@17c. Beeswax weak at 28c.

THE FRED W. MUTH CO.

NEW YORK, Oct. 10.—We are having a good demand for comb honey and receipts are quite plentiful. We quote fancy white at 15c, and some exceptionally fine lots will bring from 15½@16c; No. 1, white, 13@14c; amber, 12c.

Buckwheat is late arriving, and none has been on the market as yet to cut any figure. We expect large receipts next week, and it will sell at from 10@12c, according to quality and style of package.

Extracted in fairly good demand at 7½c for white, 6½c for light amber, and 5½@6c for amber. Southern in barrels at from 55@65c per gallon. Beeswax nominal at 28c.

HILDRETH & SEGELKEN.

CINCINNATI, Oct. 7.—Comb honey is in good demand, the supply is short and very little offered. No. 1 fancy water-white sells at 16c; other grades less, according to quality. The demand for extracted is very active and prices are a little better; amber sells for 5½@5½c; alfalfa from 6@6½c; water-white white clover, 7½@8c. Beeswax, 30c.

C. H. W. WEBER

SAN FRANCISCO, Oct. 15.—White comb honey, 12@12½c; amber, 8@10c; dark, 7@7½c. Extracted, white, 5½@6c; light amber, 5¼@5½c; amber, 5@5¼c Beeswax, good to choice, light, 27@29c; dark, 25@26c.

There are no heavy offerings of any description, either at this center or at producing points. Comb honey is in better spot supply, however, than extracted. Stocks of latter have been greatly reduced by recent shipments outward. Current values are being well maintained.

Wanted—Extracted HONEY Mail sample, and state style of package and price delivered in Chicago.

John F. Campbell, 53 River St., Chicago, Ill.

34Atf Mention the American Bee Journal.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER.

2146-2148 Central Ave., CINCINNATI, OHIO.

21Atf Mention the American Bee Journal.

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THE AMERICAN BEE-KEEPER,
a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)
☞ W. M. GERRISH, E. Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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Hamilton, Hancock Co., Ill.

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We can use the following:

Please submit samples of Extracted and quote prices (delivered, if possible.)

State from what source gathered and how soon you can ship and quantity of each grade offered:

1st.—Alfalfa Comb in car lots.

2nd.—Alfalfa Extracted in car lots.

3rd.—Car Buckwheat Extracted or other dark or amber honey.

4th.—Car Basswood Extracted.

5th.—White or Sweet Clover Comb and Extracted in any quantity.

6th.—Comb Honey in Danz. sections. For the latter we will pay a fancy price, as we have a market for the same which we have not been able to supply.

THE A. I. ROOT CO.,
MEDINA, OHIO.

☞ GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., NOV. 6, 1902.

FORTY-SECOND YEAR No. 45.

SOME MEMBERS OF THE COLORADO BEE-KEEPERS' ASSOCIATION.

R. T. STINNETT.

LEVI BOOTH.

W. C. EVANS.

A. E. MILLER.

MRS. LEVI BOOTH.

HARRY M'COMBS.

Ex-Sec. FRANK RAUCHFUSS.

A. ELLIOTT.

B. WHOPPER.

THE AMERICAN BEE JOURNAL

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SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, Emma M. Wilson, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

The National Bee-Keepers' Association.

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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☞If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal

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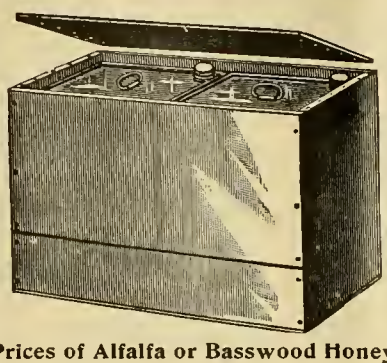
Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 9 cents per pound; 4 cans or more, 8½ cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

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The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Noveities," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., NOV. 6, 1902. No. 45.

Editorial Comments.

"**Our Bee-Keeping Sisters**" is the heading of a new department that we begin in this number of the Bee Journal. It is conducted by Miss Emma M. Wilson, a lady bee-keeper of long and varied experience, and one who knows how to express on paper, in a clear and interesting manner, the results of her years of work in the apiary. We are certain our readers of the feminine persuasion will be pleased to read the new department, and will also be glad to accept Miss Wilson's invitation to send to her anything they can that may be helpful to the other sisters in their work with bees.

"Our Bee-Keeping Sisters" is to be a department that the sisters can have all to themselves. Of course, it is to be expected that occasionally a man may try to break into it, but he will not likely repeat the attempt.

Care of Extracting-Combs.—In this country it seems to be the general opinion that it is better to have the honey entirely cleaned out of extracting-combs when the season is over. Even a small trace of honey left in a cell, if left there to granulate, will encourage granulation in the honey that is stored there the following season. It is not too late yet to leave such combs exposed so that the bees will rob them out some warm day. No special care need be taken in the North against the work of the moth in extracting-combs. The weather is too cold for their development, and all that is needed is to leave them throughout the winter where they will have the full benefit of severe freezing, which destroys both the larvæ and the eggs of the moth.

Feeding Weak Colonies First.—W. L. Davey reports in the Australian Bee-Bulletin some experience in feeding that is suggestive. He fed in a time of scarcity, treating all colonies alike, whether weak or strong. A mania for robbing was started, "with the result that the longer the colonies were fed the greater were the losses from starvation caused by robber-bees."

The philosophy of the matter is not given by Mr. Davey minutely, but it is not difficult to understand. The giving of feed produces two effects: It excites bees to start out after other stores in the most eager manner, making them fiercely attack any weaker colonies that may be found; it is also true that when a lavish supply of feed is in the hive the bees are not as carefully on the defensive, and in many cases will make no resistance to robbers, even though the colonies thus fed may be very strong. So it is no great wonder that the continuance of feeding in a bad time resulted in much robbing.

Made wiser by this experience, his next feeding was on a different plan, being entirely successful, and is given in full as follows:

The feed in this case was cheap honey, brought to the boiling point and then emptied into four gallons of boiling water and allowed to boil for about 10 minutes. This was drained off into the extractor, and a 70-pound bag of the best sugar was boiled in six gallons of water. This was then run into the extractor, and the contents of the extractor were then churned by revolving the extractor machinery. This blend of honey, sugar and water, was exactly like new nectar.

After blending up 90 gallons of syrup, it was taken 15 miles to the out-apiary, where 30 strong colonies and 24 of weaker strength had to be fed. The collecting and filling of 100 drawn combs with 4 pounds each of syrup occupied until midnight. These were distributed amongst the weakest colonies before daybreak, with the result that these weaker colonies had lost that madness that usually draws the robbers to them, and instead they were on the offensive; eager for more, they tackled the stronger colonies.

Now these strong colonies were given 2½ gallons down to one gallon of feed, in a vessel made of the half of a kerosene tin, with about two inches of straw placed on top of the syrup to prevent the drowning of bees, and the feed was then placed on top of the brood-chamber and covered by an empty super-lid, etc. This second stage of the feeding was done as soon after the daylight as possible (should be done during the night if possible).

He found, after leaving them for a fortnight, that the artificial nectar had been capped over. The strong colonies had completed their task, no robbing had taken place, no bees, so to speak, had been killed in battle, the weak colonies, being the aggressors, were in a mood to look after their home, and the strong colonies were too strong to be affected by the weaker.

Alley's System of Queen-Rearing is strongly championed in the American Bee-Keeper by Arthur C. Miller as the best, and he says that Mr. Alley is testing some changes not yet made public. L. Stachelhausen also uses the Alley plan and has less trouble than the cell-cup plan. There is no doubt that good queens can be reared by either method. The small frames used in nuclei do not necessarily form a part of either plan, but not all will agree with the first part of his statement when he says: "As fine queens as any one should desire can be reared with a cupful of bees, and as poor queens as ever lived may be produced by a bushel of bees." Unless he means that the cells are to be first reared in a strong colony.

Alfalfa in Illinois.—An interesting article in the Orange Judd Farmer is in part as follows:

Farmers who have tried to grow alfalfa in Illinois have met with somewhat indifferent success. Theoretically, the soil ought to produce large crops. The Illinois Experiment Station, several years ago, began a series of experiments to determine what was lacking. Alfalfa was grown in pots and treated in various ways. A little later field experiments in 25 different sections of the State were inaugurated. The results of these tests, published in Bulletin 76, indicate that alfalfa can be successfully grown if the soil is infected with the bacteria which are found in tubercles on the roots of the alfalfa. If these are not present the soil must be exceedingly rich, and receive a liberal application of barnyard manure or nitrogenous fertilizers. Even the rich, black soil of Illinois does not furnish sufficient available nitrogen to produce profitable crops of alfalfa.

In some sections of the State alfalfa has been grown

successfully for some years. The soil from these fields is thoroughly infected with the alfalfa bacteria, and can be used for inocculating new areas. In the experiments conducted by the station, this infected soil was applied at the rate of from 320 to 1920 pounds per acre, the heavier applications being the most effective. Prof. C. G. Hopkins states in the bulletin that where lime is applied at the rate of 400 pounds per acre in connection with 100 pounds of infected soil, the inoculation will be very satisfactory in a year or two. The infected soil can be secured from Kansas or Nebraska, if it does not seem desirable to get it from Illinois.

The Experiment Station advises farmers to try a few acres of alfalfa, and to apply infected soil to at least a small plot. The infection enables the alfalfa to feed upon the supply of free nitrogen in the air, greatly enriching the land on which it grows, as well as producing heavy crops of forage. On the limestone soils of the State it will not be necessary to add lime.

This information will come a little in the nature of a surprise to those who have been in the habit of thinking that the main, if not the only, difference between Illinois and Colorado, as to producing alfalfa, is the matter of irrigation. As a better understanding prevails, it is likely that better success will attend the cultivation of alfalfa, and it is perhaps not too much to expect that some time it may be practicable to create conditions whereby alfalfa may be a honey-plant east of the Mississippi River, even if not so valuable as farther west.

The Poison of the Bee.—A clipping received speaks of formic acid as the basis of bee-virus, saying, "To this formic acid, in all probability, the therapeutic value of the honey-bee is mainly, if not entirely, due." While it is true that formic acid plays an important part in the economy of the hive, it should be remembered that the latest investigations show that the real virus is a thing separate and apart from formic acid.

Perforated-Zinc.—A French writer says the measurement of perforations should be very exact, as a bee not filled with honey passes through a perforation of 4.06 millimeters, but is stopped if loaded with honey. The true dimension, he says, is 4.19 millimeters, or 165 thousandths of an inch, the measurement favored in this country.

Five Requisites for a Good Honey-Yield, particularly where there is an early and short harvest, are thus given in Leipziger Bienenzeitung: 1. Colonies strong in time. 2. Limiting the brood during harvest. 3. Repressing drone-brood as much as possible. 4. Giving sufficient room. 5. Having a good strain of bees.

A Cough Mixture given by E. J. Rien, in the Australian Bee-Bulletin, is as follows:

"Castor oil, honey, one dessert-spoon of each; the white of one egg, juice of a lemon. Dose: One spoonful a few times a day."

The Weekly Budget.

Hon. R. L. Taylor, who was nominated as a candidate for General Manager of the National Bee-Keepers' Association, wrote us as follows on Oct. 25:

Editor American Bee Journal.—

Please allow me, through your Journal, to thank Mr. Moore for thinking me worthy to be named in connection with the office of General Manager of the National Bee-Keepers' Association; and to say for the benefit of the voters of that Association, that I have no desire for the office, and could not serve if elected. Yours truly,

R. L. Taylor.

Mr. Dadant having expressed himself similarly to Mr. Taylor, leaves only Mr. Abbott and Mr. France as candidates for the General Managership up to this time. We are ready to announce further nominations in these columns, should there be any, but we must decline to publish any electioneering matter in the interest of any particular candidate, as we consider such publication would be unfair. We prefer to have each candidate stand on his own merits, and then have the voting membership of the Association make their own choice.

To be just and fair, any bee-paper that mentions one candidate must mention all candidates. An editor's personal feelings have no bearing in a matter of this kind.

Rules on Asking Questions.—We have decided to make the following rules, which must be followed hereafter if any one desires to have his or her questions answered in the "Question and Answer" department.

1st. The questioner must be a paid-in-advance subscriber to the American Bee Journal.

2d. The questioner must sign his or her full name and address each time when sending in any question. Of course, we shall continue to give only the State as a signature to the question or questions asked, as that is all that is necessary, and does not "give away" the ignorance of the questioner as one's name might do sometimes.

We now have several questions from some one in Urbana, Ill., who simply signs himself "Ills." If the "Question and Answer" department is worth patronizing it is worth signing your name and address in full when sending in the questions, and also keeping your subscription to the American Bee Journal paid in advance.

An Invitation from the Ontario.—We have received the following from Secretary Mason, of the National Bee-Keepers' Association:

Editor American Bee Journal—

Dear Sir:—I received the enclosed communication several days ago, and have been waiting to learn the time of meeting, but as Secretary Couse will probably give notice of the time in all the bee-papers, I'll wait no longer.

Very truly yours,

A. B. Mason, *Secretary.*

Here is the communication referred to by Dr. Mason:

Dr. A. B. Mason,

Secretary of the National Bee-Keepers' Association—

Dear Sir:—I am directed by the Executive Committee of the Ontario Bee-Keepers' Association to extend to the officers and members of your Association a very cordial invitation to attend the annual meeting of the Ontario Bee-Keepers' Association at Barrie, early in December. The date not being finally set yet, we can not be definite; but hope soon to know, when we will advise you.

We look forward to having a very pleasant meeting.

Yours truly,

W. Couse, *Secretary.*

We trust that a goodly number of bee-keepers of the United States can accept the invitation thus kindly extended.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

Convention Proceedings.

THE DENVER CONVENTION.

Report of the Proceedings of the 33d Annual Convention of the National Bee-Keepers' Association, held in Denver, Col., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 695.)

SECOND DAY—AFTERNOON SESSION.

At 2:30 o'clock Pres. Hutchinson called the convention to order.

THE LOUISIANA PURCHASE EXPOSITION.

Mr. Taylor—I understand, and I suppose you all understand, that there is, in the year 1904, to be held a great fair at St. Louis, Mo.; it is a World's fair. All preparations are taking place for the purpose of making it a great fair, and it is instituted for the purpose of commemorating this great strip of land between the Missouri and the Rocky Mountains, the purchase of it by the United States Government from Napoleon I, one hundred years ago.

Now, most of our members are specially interested in respresenting our pursuit at this great fair, so I arise to make a motion with regard to it, if desirable, that this Association should be heard with regard to the appointments to office concerning the exhibit that will surely be made by the bee-keepers of the whole country. I, therefore, move that for the purpose of making such provision and overseeing all matters pertaining to it that this whole matter be referred to the Executive Committee of this Association, and that they act as a committee for that purpose, and to see that all proper action, so far as this Association is concerned, be taken.

J. C. Carnahan—I second the motion.

The President put the motion, which, on a vote having been taken, was declared carried.

Pres. Hutchinson—The first thing on the program is a paper by Mr. C. A. Hatch, on "Reporting of the Honey Crop: When and How It Should be Done," to which Mr. Frank Rauchfuss was to respond, but as he can not be here this afternoon, in place of that we will hear from Mr. F. E. Brown, on

THE CALIFORNIA PEAR-BLIGHT.

F. E. Brown—It is not often that we hear California spoken of as blighted, but to-day I have something to present before you on that line. We have not the blight altogether; it is not all blight, but we have a blight there that promises to destroy our bees. You have already heard more or less regarding the blight question; it has been published through, I think, perhaps all the leading journals, and you are all more or less familiar with the subject, therefore I will not take any more of your time than is necessary to bring it before your minds just about as it appears to-day.

In the spring of 1901—I think it was, perhaps, in March—one of the Board of Horticulturists came into my office and inquired for the Secretary of the Bee-Keepers' Association, stating to me that our bees were destroying their pear-trees. That I think is the first mention I ever had made to me that bees were responsible for the spread of pear-blight. The pear-blight that exists in our district is what is commonly known as the Eastern pear-blight, so I suppose you are all familiar with this blight that exists among the pear-trees, apple-trees, and quince-trees.

I asked the gentleman how he knew our bees were responsible for this blight; he did not speak directly to that, but asked if I would be so kind as to meet him before the Board of Supervisors that afternoon. In that meeting that afternoon the Board of Horticulturists brought complaint, stating that the bees were responsible for the spread of the blight which was fast destroying the pear-trees, and unless the bees were removed from the pear districts, which virtually meant from our county, that within a very short time there would be no pear, apple, or quince trees left in the vicinity. The gentleman, the speaker from the Board of Horticulture, went on to state how this blight was carried by the bees; he stated that it was a germ that was small, could not be seen with the naked eye, like small particles of smoke that went in the wind; the bees being of a hairy, fuzzy nature, flying through the air to the tree, would gather up this germ and contribute or carry it to the blossom thereof, reaching the nectar, and from there to the sap of the tree, finally killing the tree.

After he had made his speech the Board asked if I had anything to say. I simply told them no; that it was new to me, that I knew nothing about the fact, and never had had our bees accused of such a thing before.

The matter went on for about three or four weeks, when the Board of Supervisors telephoned me one afternoon asking if I would come into their room, when I found the same committee as before—and they had the same complaint up, asking the Board if they would not pass laws by which bees could not be kept in that section of the country. This was perhaps in May, 1901.

After they had made their complaint the bee-men were asked if they had anything further to say, and I simply asked the Commissioners how the bees distributed the blight. At this time the Commissioners had sketched a picture of the insect which they called pear-blight, stating that it came out on the body of the tree in the pores of the bark in a gluey or gummy shape, and that bees crawling over the body of the tree in search of the blossoms gathered up the pear-blight and communicated it to the flower. That was the position that was taken then, and when I was called upon, after they made the statement upon my question—of course, you understand people that are not familiar with the habits of bees would not know but what the statement was correct, which was the case with our Board of Supervisors—I told them that any man who was familiar with the habits of the bee would know better; that the bees did not crawl about over the body of the tree in pursuit of the flower, but when a bee went to a tree that was in blossom it lit directly upon that blossom, and from that blossom to the next one, and the next one, and so on, but never in any case were they found upon the body of the tree.

Now, when our trees in California blossom, especially the pear-tree, there are no leaves; they blossom before the time of leafing, and the tree is simply one great snow-ball of white blossoms, and the bees, of course, go over the trees, flying directly from blossom to blossom.

However, there were one or two other bee-men there who made some remarks regarding the matter. The matter was passed over; the Board did nothing.

A little later there was a mass-meeting called of fruit-growers, the pear-men and raisin-growers all together; they came together in the Superior Court room of King's county. In this meeting there were no bee-keepers supposed to be present. However, we had a delegation there. One of the most prominent men in that Board of Agriculture came before that mass meeting and urged that they would poison the insects that were infesting the trees—they were spreading the blight from tree to tree. This was said in an open mass-meeting of the fruit-growers of our county and vicinity. The gentleman that was addressing the meeting advocated that they use cobalt and honey as a matter of poison; that by poisoning them that way the bee would die before it reached the hive, therefore there would be no danger of the poison getting into the honey.

I think it was about this time, perhaps, that Mr. E. R. Root visited our locality, and he visited almost all the prominent pear-growers in our vicinity; he visited the orchards; he met Prof. Pierce, and had a good influence over the situation, and it was proposed by Mr. Root that we try to compromise the matter by making a test.

Now, the bee-men did not believe that their bees were in any way responsible for the spreading of the blight at that time. However, Prof. Waite and Prof. Pierce had both suggested that it was possible, and I think they have spoken more directly since then.

The first part of July of last year the bee-men called a meeting and passed resolutions agreeing to make a test case, and that we would move our bees out of the pear districts that we might test the matter. This was suggested by Mr. Root while he was with us. This was done the first day of July, 1901. We handed our resolution to the committee of the fruit-growers; they accepted it and said nothing.

It went on until some time in the fall, when one of the fruit-growers came to one of our men and said it was about time we were doing something with regard to moving the bees. At that time, however, I was away in San Francisco, but shortly afterwards I returned. Nothing further was

done until the very last days of February of the present year, when there was a mass-meeting of the fruit-growers and bee-men again called. In this meeting the bee-men were asked to go on and carry out the intention of their resolution which was passed the year before, in July. Our pear-trees begin to bloom about the first week in March, and this, perhaps, was the last week in February.

In that meeting our committee got together and agreed to clear up a certain district two miles square, and move our bees three miles from that line, as a matter of test. In our resolution the summer before we had agreed to move them clear out of the district, away from the pear-trees, but now, for want of time, as it was within a few days of the time when the pear-trees would bloom, we agreed to move out of this one district only. This was done, but before this meeting adjourned the bee-men asked the pear-men to see that they moved *their* bees.

Now, there are some of our pear-growers there that have a few bees, and some of our fruit-men have bees, and farmers have bees, and there are bees in the fence-corners—bees all around. I suspect you have them the same way here. So, we did not want to be responsible for the moving of the bees which belonged to the fruit-men; we left that to the fruit-men's committee, and this fruit-men's committee agreed to do it.

After the meeting adjourned we went to work moving our bees, and the Central California Bee-Keepers' Association moved every bee that belonged to them, and moved them the distance they agreed to move them—three miles from that line—clearing up a territory two miles square right in the heart of the pear-blight district.

On visiting the pear-trees after they came in bloom there were bees all over the trees very nearly as numerous as ever before, and, on coming to investigate, the fruit-men had their bees, had them still; men who had pear-trees upon their ranches, quite good-sized orchards, had bees, and so the test was spoiled.

Now, then, I believe, gentlemen, that the bee-men of Central California have done all that they could do in respect to this matter; they desired to make a test of the matter, but they did not believe that the bees were responsible for the spread of the blight at that time. The test was spoiled, but the trees were seemingly infected.

Now, in the winter-time our pear-growers prune down their trees quite closely, pruning off all signs of dead wood and blight, leaving the tree in the spring to come out new; you would scarcely see there had been any blight except the top is not quite so large. That was the case this time. The trees were in blossom, the bees were working upon them two weeks, and there was not a blight to be seen, and people thought for some reason there was not going to be a blight. But, seemingly, all at once, like a thunder-clap from the clear sky, the trees were all wilted, the blossoms just appeared to topple down, bow down their heads under the blight; nearly everything in sight was blighted, and it took it all at once. That is something that we as bee-men do not understand, or how it is so affected, but there was no blight seen upon the trees anywhere except in the blossom. I investigated it myself; I was on the ground; went amongst the large orchards and saw it with my own eyes; that blight attacked the trees directly in the blossom. About a week later than this the leaves began to shoot out amongst the blighted blossoms, and then the blight ran down the little stem that held the blossom and would affect the leaf and limbs, going on down the limbs.

About the time that we had our joint meeting of fruit and bee men regarding the moving out of the bees, the Board of Supervisors of our county appropriated money by means of which certain trees might be put under mosquito-netting to make a test that way. After we had seen the other test had failed, we thought quite likely we had a test under this head that would prove beneficial. I visited these trees and saw that they were not as reported. Perhaps you are not familiar with the report, but the Board of Horticulture published an article in our county paper stating that the trees which were under mosquito-netting were unhurt by the blight, while all the trees around them were blighted; stating further that the fruit on these trees that were under this protection was good, the trees were full of fruit, while all around them was otherwise.

I immediately went to these orchards and examined these trees under mosquito-netting, and I found that they were much blighted; I found that they had very little fruit; but I found that there was more blight existing on the trees outside the mosquito-netting than under it. But on examining those trees later in the season, after the pears were perhaps half-grown, I found that there were no more pears upon those trees than the trees around them. This experiment was conducted in the Charles Downing orchard, the largest pear orchard in the State. You saw a picture of that orchard last night upon the screen, which was taken during the last days of June, a year ago last June, but to-day that orchard is half dead, and this winter, perhaps, three-quarters of that orchard will be dug up. This is only one. The pear-growers claim that they lose enormous sums of money. There is one grower claims he loses at least $10,000 a year from the loss of pears alone. That was in the year 1901. If he lost $10,000 from the loss of pears alone in 1901, this year, if this statement is correct, he has lost three times that amount; but whether it is or is not correct, the pear interests in our country are large and extensive. There are one or two pear men who have stated that they lose pears enough in a single year to buy up the whole bee-industry of the State. That is not correct. All the pears that are grown in Kings county or Central California, perhaps, would not amount to the honey industry of the State; but of the two industries growing side by side in Kings county, the pear industry is the greater, or was before the blight struck it.

The question as it stands to-day, is that the Board of Supervisors probably will do nothing. However, they are electing a new Board at this present election. But we fear this, that the fruit-growers will place notices upon their fences, "Poison about. Take care of your bees." We expect that will be done; in fact, it has been done; that is, the poison has been put out and bees have been poisoned, but the notices have not yet been posted.

The way the pear-blight is now existing and spreading rapidly, consuming the orchards, it will not be two years before there will not be a pear-tree left of the variety of the Bartletts. In view of this, our bee-keepers in our convention held the 24th of August last, passed a resolution and gave it to me to bring to this convention, which I have with me and will read. It is as follows:

The Central California Bee-Keepers' Association, assembled in regular session in Hanford, Kings Co., Calif., this 27th day of September, 1902, for the purpose of transacting business and discussing matters relative to the best interests of the Association, including the pear-blight and bee-question, which is so prominent with us at present; and

WHEREAS, The National Bee-Keepers' Association convenes at Denver, Sept. 3-5; and,

WHEREAS, It is an organization, organized for the protection of its members; and,

WHEREAS, There is in this vicinity an existing malady known as pear-blight, which is fast killing the trees and destroying the fruit crops thereby; and,

WHEREAS, The bee is accused of spreading said blight, and is alleged to be responsible to a great extent for the cause of failure in the pear crop, which loss is placed as high as $10,000 per annum for a single grower; and said growers have made reported efforts to get the County officials to pass certain ordinances prohibiting the keeping of bees where pears are grown; and,

WHEREAS, There are threats of wholesale poisoning of the innocent bee, and said threats have, in a measure, been carried out, to the damage of some of our growers; and,

WHEREAS, This Central California Bee-Keepers' Association's members are members of the National Association, and are very desirous that the mother Association take up the matter, and in case there is further trouble, that the National Association will give us the advice and protection that is usually done in cases like this. Therefore, be it

Resolved, That we pass on this set of resolutions and preamble to the National Association assembled at Denver, Colo., asking them to consider its merits, and to discuss its contents, and that they take up the matter and give us the protection herein asked for. And be it further

Resolved, That Mr. F. E. Brown, our present Secretary, is our regular authorized representative to that body.

F. E. BROWN, *Secretary*. JOSEPH FLORY, *President*.

Pres. Hutchinson—You have heard the description given and the resolution which has been read. What shall we do with it?

S. Francis—I move the adoption of the resolution.

R. L. Taylor—Does that meet the point? This is a resolution of the California Association with regard to their troubles there, and a request that this Association examine into the matter and extend to them such advice and aid as they may need. Now, the adoption of that would not help them out any. It seems to me that motion should be put in some different form.

Mr. Abbott—Mr. Chairman, was there a seconder to that motion?

Pres. Hutchinson—I did not hear one.

Mr. Abbott—If there was not I will make another motion. This is a question which will involve the expenditure of money, and belongs exclusively to the Board of Directors. I move that the whole matter be referred to the

Board of Directors. The discussion of it may go on, but the final action will have to be taken by them.

Mr. York—I second that motion.

Dr. Mason—I had thought this would be a good plan, that we refer these resolutions to a committee, and that committee can report to-morrow and make such recommendations as may seem proper. We can hardly tell by hearing it read just what we had better do. Wouldn't that be a good plan, to put such men as Mr. Abbott, and men who can work fast, and think fast, on a committee of three with him? I move an amendment, that a committee of three be appointed to which those resolutions be referred, and they report to us during the session of this afternoon, making such recommendations as they think proper.

Mr. Rhodes—I second the motion made by Dr. Mason.

Mr. Abbott—I have no objection to the amendment. If I was on that committee I would simply go on about my business and recommend that it be referred to the Board of Directors, where it would have to go. I am a great stickler for us doing anything we can do, but while we are working under a Constitution like we have, I don't see how we could do any more than to recommend that the Board of Directors do so and so, and the presumption is that they know what is best to do. We want to draft a resolution in such shape that these people ought to be taken care of; I think that is their thought. That is my candid opinion.

Dr. Mason—I think so, too; I think we ought to attend to this, and my suggestion was simply to get it in line with what I thought was the best, the same as Mr. Abbott does; he thinks one way would be best, and I think another. In that way we get our views before you, and if you do what you think is best, that will be satisfactory to him and to me.

Mr. Ivy—I think the amendment made by Dr. Mason is a good one. This California Association did not go to the Board of Directors; they have come to this convention, and I think this convention should indorse it and recommend that those people be taken care of.

There being no further discussion, the President stated the amendment, and on a vote being called for and taken declared the amendment carried. The motion as amended was then put, and, on a vote having been taken, was declared carried.

ELECTION OF OFFICERS.

The election of officers for 1903 was held at this time, and resulted as follows:

President—W. Z. Hutchinson, of Michigan (re-elected).
Vice-President—James U. Harris, of Colorado.
Secretary—George W. York, of Illinois.

(Continued next week.)

Contributed Articles.

No-Drip Shipping-Cases for Comb Honey.

BY G. M. DOOLITTLE.

QUESTION.—Do you use what are called the "no-drip" honey-cases for sending your honey to market? If so, will you please tell the readers of the American Bee Journal how you make the paper trays? I saw somewhere that I was to lay the paper on top of the case, and then, with a "follower," push it down to the bottom, when the tray would be in place and just as it should be. But after trying, and trying, I can do nothing that way, as in every case I have tried the paper becomes torn more or less, so that it would leak honey, if any dripped down on it. Please tell us all about the little kinks necessary in making and using, so that it may be plain even to the novice.

ANSWER.—Yes, I use the paper trays and have done so for more than twenty years. I have also, like you, read that all that was necessary to make these trays was to push the paper down to the bottom of the case with a board that would loosely fit the bottom of the case; and, again, like you, I never could so push one down without tearing the paper, and have often wondered if those who recommended such a procedure had ever tried the same themselves. If so, there was some part of it which has been left out, it seems to me.

Well, I will try to tell how I make these trays, use them, etc.

The first thing wanted is the paper. After testing many different kinds I have come to the conclusion that none is equal to that known as "manilla," for this purpose, and that having the glossy finish is the best. This will hold honey a year without wetting or soaking through. Such paper can be bought by the quantity for from five to six cents a pound at the present time, but I used to have to pay from ten to twelve cents.

The next thing is the cutting to the size you wish, which you can generally get done where you buy the paper. If this is not handy then lay it on a table or bench, and after marking where you wish it cut, lay a saw or square on it where the marks are, and tear the same as you would tear it by a ruler, the back of the saw or square being used in place of the ruler, as it is longer. After a little experience you will be able to tear from six to ten sheets at a time, thus getting along quite rapidly. The paper should be cut from 1¼ to 1½ inches larger each way than the bottom of the case you use, so as to turn up nearly ¾ of an inch on all sides.

Having the paper cut and ready, the next thing needed is a board one inch in thickness, and of a size so it will just nicely slip into the bottom of the case, but not so tight but what you can readily jar it out by turning the case bottom side up. Spend some little time on this board, getting it out true and having each and every corner true and sharp, for you will wish to use it for years, or so long as you use the same size sections and cases. If it is made of hard wood the corners will stay sharp longer and the board keep smoother.

Now lay one sheet of paper on the work table or bench, and place this board in the center of it each way, which will make your paper project about ¾ of an inch on all sides of the board. Put your finger under the paper on one side and one end and bring it up next to the edges of the board, rubbing it a little so as to make it fold at the sharp or lower edges of the board, when you will work both hands up to one of the corners which will make the point of the paper stand out in front of the corner. Now fold this point toward you, when you have what is known as the "baking-tin" joint, one which will not leak until the paper is full.

Now do all the other sides and corners the same, folding each corner toward you each time, when you will lift the board out of the tray which has thus been formed, and which will be the exact size on the outside as the inside of the case.

Now place a case on the table in front of you and beyond the paper tray, when you will take the tray by the two corners next the case, pressing the baking-tin joints to their places, and slip these joints into the open side of the case next to you, which holds the joints from spreading out or bothering you while you are placing it in the case. Now take the two remaining joints between your thumbs and forefingers, raising the tray a little till it is of the right height, when by a little gentle pushing motion the tray can be readily slipped into its place in the bottom of the case, the joints all coming into place nicely.

With the hand smooth the paper down on the bottom of the case, when you have something that will not leak unless the honey is broken badly enough to run over the top. Now should I stop here, I would leave out the part which used to bother me the worst, especially where the case is made so that a certain number of sections fit so they will not shake around any when handled, as all cases should be made. The trouble came when I went to put the middle or last tier of sections in the case. All the others could be placed up against the sides of the tray in such a manner that they would not catch on the paper, but rather come so as to hold it in place; but when I came to slip down the last sections next to the end of the case, the sections were almost sure to catch on the upper edge of the tray, and after tearing, carry the paper down to the bottom, which makes things about as bad as did that torn by pushing it down with the follower.

I studied on this matter for some time, when one day it occurred to me to get a very thin piece of tin, just a little narrower than the thickness of the section, when I placed this strip of tin within an eighth of an inch of the bottom of the case, and bent what stood above over the top of the case, cutting off what came out beyond the end of the case. Now when I came to put in the last sections at the back, I hung this strip of tin down in the case over the edge of the tray, which put the tray behind the tin so that the sections could not touch it, when the section was slipped into place, the tin lifted out by the bent-over end, and all done so smoothly and nicely that there was great rest and pleasure in it, over the former way. In writing out all the

minutiæ of these matters they seem long and tedious, but in actual practice only just a moment suffices to do the whole thing, and the more anyone becomes used to such work the faster it can be accomplished.

Onondaga Co., N. Y.

Disposing of the Honey Crop Advantageously

Read at the Minnesota Bee-Keepers' Convention.

BY MR. SHEPHERD.

"HOW to dispose of the honey crop to the best advantage?" is the question asked by the enterprising bee-keeper. Some say through the commission man, because they do not want to be bothered by selling in small quantities—they want their money all in a lump. Others peddle honey because they can realize a larger price. I prefer to work on that line, for I want that larger price, and by so doing I help keep a little off the city market, and sweeten up my neighbors.

I work on the exchange order or plan. I place in my local paper an "ad," something like this:

"Wanted—To exchange extracted honey for oats, corn, potatoes, eggs, or silver dimes."

When I commence peddling, I notice that a good many would not buy if they had to pay money, but if I would trade, "Why, yes, I will take some." By so doing I found a market for honey that would otherwise go to the commission house.

While living on the farm I would take all the eggs that I could get hold of, in exchange for honey, because I could take them to the store and exchange for something for the family, thereby accommodating my neighbor as well as myself.

You should be prepared to give your prospective buyer a taste of your honey.

Another way is to bottle it, and put it in the grocery stores. Put in jelly tumblers, or square bottles fill the bill quite well. This point should not be overlooked: Advertising your honey by having your name in as large letters as the word honey. Look at the bottled goods in the grocery stores for an example. When you buy butter, you look at the reputation of the maker, somewhat. It is the same in your honey-production.

Produce "A, No. 1" honey, so that it will "taste like more."

The "Missing Link" in Queen-Rearing.

BY HENRY ALLEY.

FOR the life of me I cannot reconcile the articles of Dr. Gallup (page 584) and Mr. Doolittle (page 569). Mr. Doolittle gives Dr. Gallup all the credit it is possible to give anyone for teaching him how to rear long-lived queens, and Dr. Gallup upsets the entire thing by telling the readers of the American Bee Journal that Mr. Doolittle's queens are worthless; that is, in the second year. Maybe I did not read those two articles understandingly. I do not agree with Dr. Gallup on this point, that is, if Mr. Doolittle rears queens by the method he says he does. I know his queens must be good, as I have reared for years more or less queens in that way, and they are always good; but if I remember correctly, Mr. Doolittle has not always reared queens in that way. I would like to ask Mr. Doolittle whether, after he commenced the cell-cup way of starting queens, did he recommend placing them in the top-story over the brood-nest of a strong colony?

As stated in a previous article, three queen-dealers appeared to make that discovery at the same time. We all thought that a marvelous thing had been discovered, but with me it proved to be the worst thing that ever happened to me in my queen-rearing experience. I found it the cheapest way to rear the cheapest queens, many of the cells so built out that they had all the appearances of containing extra-large queens, and would contain a half-grown worker-bee. Why was this so? Because the cells were built out and larvæ nursed by bees having a fertile queen. The lump of jelly was found in nearly all the cells, but, as before stated, the composition of the food was not the kind given to larvæ in cases where no queen is present. In fact the bees were not "broody," they saw no need of other queens, and would not "set" on the eggs.

The first milk a cow gives for nursing its offspring is of a different quality from what it is several months later on; and so it is all through Natures's ways. Queens reared in the above way are "forced" queens; but queens reared in the way Mr. Doolittle and Dr. Gallup say they rear them are necessity queens. Quite a difference between the two kinds when they are put into colonies of bees.

Now, when I reared queens in the year 1860, I thought it was a waste of bees and time to use a full colony for rearing queens, and so the nucleus system was used; and, if practical to rear queens by the nucleus system, I would use it to-day; and as was the case 40 years ago, I could rear just as good queens by that system as any one would care to pay for.

"Necessity is the mother of invention," and as I found that queens could not be reared at a profit by either the nucleus or full-colony plan, as given by Dr. Gallup, I commenced to experiment, and soon discovered a way that combined all the good and essential points of the full-colony system; in fact, only full colonies were used, and have been used, by me for 38 years for rearing queens. I found that I could rear queens that were first-class in all respects by another plan. Last season I tested something entirely new, and now can rear queens that I think are superior to any reared in previous years; but the main point in this last plan is economy in bees, and quality of the queens so reared.

Speaking of the "jelly lump" at the base of the cell as indicating quality of the queen, I will say that there are other strong indications of the quality of the queen in a cell. When opening a hive and finding several queen-cells, just examine them and see if they are heavily waxed and thoroughly corrugated. This is a good indication of a fine queen within. When the young queens cut out of the cells, I notice that the good queens leave a large hole, and usually leave the cap hanging as if by a hinge, a sort of swinging door. I have been deceived many times in supposing a cell contained a queen, when, in fact, the queen had emerged and the cap flew back in place, and no indications that the cap had been removed. When a queen leaves a cell, and the outlet is small and ragged, the queen is worthless.

I never allow queens to hatch in the hives. I always remove the cells to nursery-cages. I do this to save time and bees. By having queens in cages they can be examined; if there is any defect in them (and there are many queens in a thousand that are defective), they are destroyed. Now, if defective queens are hatched in nuclei, much valuable time is lost to the queen-dealer, as it would require no more time to get a perfect queen fertilized than it does a worthless queen.

All queen-dealers have hundreds of testimonials in favor of their queens. Of course they publish them; but when a "kick" comes in we don't tell of that, do we, Mr. Doolittle?

I wish to speak of one testimonial that came in this very day. I mention it as Dr. Gallup says "we" can't rear queens that survive the second season. The writer says he "had a queen of me in 1899; she is now 3 years old, and seems more prolific, each year. It rained 25 days in June, and July was no better, yet she gave two good colonies and 25 pounds of honey, and the parent colony is overflowing with bees." I mailed this letter direct to Dr. Gallup. Now, such letters come in nearly every mail to all who rear queens, yet Dr. Gallup says our queens are worthless!

I know it makes no difference who rears queens, nor what method is used in rearing them, there will always be some trouble with queens sent out. I have sent thousands of queens to bee-keepers who write thus: "Send me a queen by return mail. I have a colony all run down that has been queenless 3, 4 or 5 weeks," as the case may be. Now what can a bee-keeper expect to do in that case? If the colony dies in the winter the queen-dealer catches it; this man tells his neighboring bee-keepers, "Such a dealer's queens are not worth anything. Put one in a hive last fall and she died in the winter." There is nothing fair about such a deal.

It is all right to introduce queens in such cases and take the chances of the colony living, but don't hold the queen-dealer responsible for the loss of the colony, if it should die before spring. It is the bee-keeper's fault, and not the queen's.

Hundreds of bee-keepers who purchase queens destroy their usefulness when they introduce the queen. A queen slightly stung (and many of the queens are), soon dies. Many of them lay a few eggs and then disappear, or are found dead in front of the hives; sometimes found in the hive and the bees building queen-cells; then they write the

dealer thus: "Queen received and introduced, but has not laid an egg," etc. In 90 percent of such cases the queen was all right but was ruined in introducing. I might go on and give hundreds of such cases.

Essex Co., Mass.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON.

Salutatory.

DEAR SISTER BEE-KEEPERS:—

Mr. York is kindly giving us a department of our very own, in the American Bee Journal, in which we may freely give all our experiences, tell all our grievances, etc. It seems to me that there are enough of us to make this department very helpful, if we all do our part in trying to make it a success; and remember it depends upon ourselves whether it is a success or not.

It is not intended for large bee-keepers alone, but for all. No matter if you have only one colony, or may not have any as yet, but are interested in bees, and want to talk with some one else that is interested, too, please remember that this department is for you,

If there is any little item of information, anything that has helped you, and may be of benefit to some one else, even if you think it hardly worth mentioning, don't hesitate to send it in. It may help some one greatly. I sometimes think the little things are of much more value than we give them credit for. So much of our life is made up of little things. So let us hear from you all.

Marengo, Ill. EMMA M. WILSON.

Bee-Dress for Women—Comments.

On page 317, Mrs. N. O. Penny suggests the wearing of bloomers in place of an underskirt; bloomers to be made of the best blue drill or denim. Also leggings made of the same material to be worn with low shoes. How many have tried them? How did you like them? Please report.

I have worn leggings made of heavy brown linen. They were as good as far as proventing stings was concerned, and cooler than shoes, but not as cool as low shoes without leggings; and for myself I prefer to take the stings and be a little cooler. I mean in the very warm weather during the honey harvest when bees are good-natured.

On page 345, Mrs. F. A. S. Snyder says:

"In advising woolen skirts we lose sight of the fact that the honey-bee has implements on the three little claws of its hind legs shaped like a hoe, a trowel, and a rake, and these delicate little implements catch on the wool and cause no end of unnecessary annoyance to the bees. I know if I wore woolen skirts in the apiary, the back, though 'the apron covers the front,' would be full of struggling, stinging little prisoners caught on the fuzzy material."

Mrs. Snyder evidently supposes that the back of the skirt is unprotected, whereas my aprons are made to cover the whole skirt—back as well as front. I have never had the least trouble with the bees stinging my woolen skirt.

Mrs. Snyder says she wears black cotton shirt-waists, and also says she rarely gets a sting. Now, I know if I wore black waists I should get many a sting, for if there is anything our bees seem to object to it is something black, if they are at all inclined to be cross. I have known at least a dozen cross bees at a time to attack the black head of my hat-pin, that being the only black object in sight. I could not see them on my own head, but it was very amusing to others to see them tumbling and sliding off the smooth surface trying to sting it.

If they are very cross or excited, anything black seems to enrage them, while they will seldom sting anything white.

Now, as to wearing gloves: I suspect each one must be governed by her own preference in this matter. I certainly can work with much greater despatch with gloves, than without them. They protect my hands from stings, keep the bees from crawling up my sleeves—which I dislike quite as much as the stings; keep my hands and dress-sleeves clean. I have a pair of sleeves sewed to my gloves which, of course, are pulled over my dress-sleeves, and that one item of keeping my sleeves clean would count much with me. I never clip a queen with my gloves on, but as they are so easily slipped off and on, it is no trouble to slip them off when I want to do any work of that kind.

I decidedly prefer to wear gloves; but you have just as good a right to object decidedly to them; as I said, each one must be governed by her own preference in the matter.

Others may not object to the feeling of propolis on their fingers as I do. I have known persons who could not endure the least bit of honey on their fingers, but could have their fingers covered with propolis. That I never could have endured at all. You see we are not all made alike.

Smoker-Fuel.

Mr. Ralph D. Cleveland (page 620) thinks if I would try excelsior as a smoker-fuel I would abandon soaking rags, and hunting good "smoke-wood."

Well, Mr. Cleveland, I have tried it, and given it up because it did not last long enough; but perhaps I did not pack it down hard enough. Many thanks for the suggestion. I will try again, and give it a good, solid packing next time.

As to smoker-fuel, however, it is largely a matter of convenience. In this locality there are plenty of good chips handy; they make a good smoke, last well, and with a little saltpeter or a few live coals to start with, there is no trouble in lighting them, so they are likely to continue the favorite fuel for a time. Just so, others may find other things more convenient.

Apiary of Mrs. C. R. West.

We commenced the bee-business six years ago, and I was so enthusiastic that I thought the more colonies I had the more honey I would get. I was like some other so-called bee-people—I did not want one or two colonies. When I was at the business a little while it was no trouble for me to see I did not know so much. Two years ago I bought 26 colonies; they were good and strong, and made it pay me. I am a dear lover of the bee; I think it is such nice work, and then the little things teach such good lessons.

In the picture which I send is Mrs. Holoway and little son also. The little girls are Ruth and Mary McFarland. The man is my brother.

Our honey crop is short in Texas. In the spring we had every prospect of a good yield, but the hot, dry winds dried up the nectar, and also the bloom. I fed our bees for six weeks. Now cotton is blooming and they are storing honey. The cotton honey is pretty and white.

Last year they had a good honey exhibit at our convention, and this year only one man brought any, so we had to give him the blue ribbon. Oh, well, perhaps we will be more successful another year. I never give up. "'Tis try, try, try again."

I now have 35 colonies, and they are doing nicely. I

MRS. C. R. WEST AND APIARY, OF ELLIS CO., TEX.

live in hopes of a successful ending. Hope is a great anchor. Thank God for hope. "Faith, hope and charity, but the greatest of these is charity." But I am "stuck" on hope. MRS. C. R. WEST.

Ellis Co., Tex., July 21.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Beginning in Bee-Keeping.

I am an amateur, with absolutely no knowledge of the first principles of bee-keeping. I have no bees, hive, or friends that know, but an abundance of flowers. Will you kindly inform me how to begin? Where can I get supplies in this section of the country? CALIFORNIA.

ANSWER.—Well, now, that's refreshing, to find a man who knows that he doesn't know anything! The first thing is to get a good text-book, and as it is now late in the season, you will have plenty of time to become familiar with it before it is time to make a purchase next spring. Indeed, when you have been told to get a text-book you have been told about all you need to be told for the present, for the office of such a book is to answer a multitude of questions that will arise in your mind, besides a number of others that you would not have thought of. Before spring you will probably become so interested in the matter that you will want a bee-paper—unless you have made the mistake that so many make by getting a bee-paper before a text-book—and in the Journal you will find advertisements of those who have bees to sell, and you can then order from some one not too far off, so as to save enormous express charges. After you have fairly started in your text-book, your visits to this department will be specially welcome, and you need not hesitate to ask about anything that does not seem entirely clear in the text-book.

Queenlessness During Swarming-Time—Moths on Comb Honey—Wintering Bees.

1. What is the cause of bees getting queenless during swarming-time? I had one colony that cast a swarm about the middle of June, and not wishing for swarms I went through the hives and cut out all queen-cells, leaving one young queen in the hive, which was constantly singing from the time it hatched until she came fourth with another swarm, leaving the colony queenless, and no brood to rear. Two weeks afterwards I gave them a new queen which they accepted and everything was all right. What was the cause of the bees swarming out with that queen and leaving the mother colony queenless?

2. What is the cause of moth getting in the sections of comb honey? I keep them in a dark, dry, warm place? What can I do to kill them? I have about 400 sections of fine white honey, and I keep it in a closet close to the cook-stove, and some of it has small moth in it.

3. What is best to put over brood-frames to keep the bees dry in winter?

4. Will bees winter well in a tight shed closed all around except 14 inches. ILLINOIS.

ANSWERS.—1. It is not an uncommon thing for bees to swarm out with a virgin queen when she takes her wedding-flight, and whether they swarm out with her or not there is a chance that something may happen to the queen, such as being caught by a bird, and then, of course, the colony is hopelessly queenless. Once in a great while a colony is so foolish as to swarm out with a young queen in regular swarming style when there is no other queen or queen-cell left in the hive. I don't know why?

2. The probability is that the eggs of the moth were laid in sections while they were yet on the hive, and while you are keeping the sections in the best kind of a place, it is also a good place for the moth's eggs to hatch and develop. While they are still small it will be an easy matter to destoy them by fumigating with bisulphide of carbon or with sulphur.

3. It is largely a matter of convenience, depending upon what there is to be had most easily. Probably nothing is better than cork-dust. Dry leaves are also good, planer-shavings, chaff, rags, etc.

4. Some winter very successfully in that way, especially in localities as far south as yours, where the winters are not so severe as farther north.

Place to Winter Bees—Winter Temperature for Bees—Weight of Bees, Hive, Etc., for Winter.

I have a small room built up next to the roof of a double granary, enclosed with a 6-inch wall of chaff on top, bottom and all sides except south, which has one window. I wintered 5 colonies in this room last winter—all that I had—I am a beginner. Three of them came out sound and saucy, and the other two starved to death.

1. Do you think this is a good place to winter bees? or do they need more feed in such a place than in a cellar?

2. At what temperature should this room or cellar be kept to give the bees a chance to ripen and seal syrup given to them made of granulated sugar? Or will they ripen and seal it all in winter?

3. About what should a common 8-frame hive, bees and comb, weigh when it contains 25 pounds of honey?

IOWA.

ANSWERS.—1. The probability is that a cellar would be better, at any rate the bees would consume less in a cellar.

2. The general opinion is that 45 degrees is the best temperature for a cellar. Warmer than that might favor ripening, but the bees would not do so well. Better not count on bees ripening syrup after the first of October. If you must feed too late for bees to ripen the syrup, give candy as directed in your text-book.

3. I don't know for sure, but think it would be about 45 pounds.

Worms Working on Honey—Keeping and Fumigating Honey.

1. I have about 100 pounds of comb honey in sections, and I notice here and there a section which has a few places where there are little grindings. It looks as if a worm is there, but I cannot see anything. Perhaps the black ants have done it, as there are still a few running around when I open the cupboard.

2. I have the honey upstairs in a cupboard, south side of the house. Where should it be kept?

3. Should honey be fumigated if to be kept until next year? What should I use? I have been thinking of using brimstone. Will this hurt the honey? PENN.

ANSWERS.—You are safe in laying the blame on worms rather than ants. The first intimation of their work on sections will be found on the edges where the comb joins the wood, a little heap of whitish powder, but the worm is so small it is not easily seen.

2. Upstairs is a good place if warm. A hot, dry place is the thing. Indeed, if kept in a very hot place through the summer, as in a garret next the roof, it will stand freezing in winter without injury.

3. It may or may not need fumigating. Depends upon whether the moth has laid any eggs in it. Brimstone will do, and will do no hurt if not used too strong. Bisulphide of carbon is more in favor than brimstone or sulphur nowadays.

Honey as a Health-Food is the name of a 16-page leaflet (3½x6 inches) which is designed to help increase the demand and sale of honey. The first part is devoted to a consideration of "Honey as Food," written by Dr. C. C. Miller. The last part contains "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by every one who has honey for sale. It is almost certain to make good customers for honey. We know, for we are using it ourselves.

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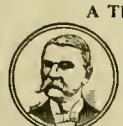

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What Yon Yonson Thinks

My ying, you better believe ven ay furst com to das country ay bean purtty green. Da boys, dom foller me roun, an von he say, "Git on to da Svede." Noder von feller he say, "Hey, Svede, drive under da shed!" Von boy he ask me if ay bean sure ma modder know ay vas vay from home." "Mine goodeness," ay say, "you boys vas make big misstake; ay don't got any home; ay bean look for yob."

So by an by ay hire for yob on section; dom pay me dollar an quvarter day, and ay ete me self. But ay don't lak very vell for to vork an da section, so me hire for Ole Peterson to vork on farm. He say he don't got very hard vork, an ay only hav to milk 15 cows fore brekfus, so he pay me dollar day an he ete me tre times a day cept Sunday, den he only ete me tvice.

Von day ay vent to post-office an ay ask das office mans if he bean got any letter for me, and he yust stan an look at me an he say, "Vot bean your's name?" "Mine goodeness," ay say, "you tank ay bean fool? Vont da name be on da letter?" An he yust stan an laff for bout 15 minnit.

Ven das country bean first settled it bean yust plum full ma golden-rods, an all kines ma flowrs, but now da mans dom bean plowed it up, an dom plant potatis an eorn an oats, an dat don't vas nutting for bees. An still dom mans tank dom can have hundreds ma svarms. Now, ven dom don't bean but few before, an dom don't plant nottings for da bees, dom vont dom to vork all summer, Sunday an monday, an bord demselves, an make hole pile ma honny for da mans, yust like Pharaoh did ma Israel's childrens. He say dom got to make brick and dom got to make yust so much brick ven dom don't got any straw, som dom make before ven dom got plenty straw. Better take das bible down an read Eexodus 5th chapter, and den you vill fine out all about it. An if you vill read on you vill fine out how dom chilren go for 40 years to fine das Promis Lan, dom flow ma milk and honey. Ay tank da moste be lots ma flowers in das lan. Mebby it bean som sweet clover an eatnip an phacelia an rossberrys. Ay know it say it bean lots ma fruit, an offul nice big frute vot dom spies bring back. It moste bean lots ma bees, cause ven dom svarm down even make das home in da big lion vat Samson killed, an Samson he say it don't bean notting sveet like hunny. But ay don' kin fine dat dom blame dem little bees for to make da pears to blight, an da moste be good bees. Ay tank da bean lots about bees in da bible. Mebbe dom big bee-mans, some of dom, don't bean read all of it yet.

Da bees have bean give us for great blessing, and ve moste seen to it dat dom don't starve, an dat dom don't got any straw. Mr. Newman vot make das bee-book called "Bees and hunny," he say he don't can understand how a yenerous-harted bee-keeper can go on an inereas his bees an not make provide so dom don't starve. An he say if ve vill scatter bout tirty cent vort of seeds for each bee svarms ve can inereas to 500 svarms an not be overstock. Mine goodeness, vat you tank of das? Newman he don't bean von dem kine of fellers vot talk tru his hat eder, you bet. Ay tank ven Yon Yonson git plenty all kines of honey-plants he yust goan to make Rambler's hunny crop per svarms, look lak hout five sents a vort of soap.

Now, if ve rais akers an akers ma corn for hogs an it pay, vy for it don't pay to raise sometings for dom bees vot vork so hard? Ay got 42 head of hogs, nice vons, but, my ying, dom don't board domselves; dom youst ete all da time, an dom don't got sens nuff to vork for nobody, and if I don't feed dom ragler dom youst stan aroun an make big squveal an fuss. Ay know dom big bee-mans dom say it don't goan to pay to plant any ting for bees alone, but ay tank dom make big misstake. Ay tank it don't bean fair for

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dom little bees to ride in hive-vagon all time, ven das nice hunnys vat dom make it bean fit to adorn any king's table. Ay bean look aroun' an ay don't fine it bean any bee-farmer vat plant his hole farm for da bees like dom do for da hogs, how kin dom tell ven dom never bean try it? It look like dom all bean fraid, an dom vant some von else to try it first. Now, ven ay ete a vatermelon ay don't svaller hole ting to vons. Mine goodeness, no! But ay take little bite to see if it vas sveet, den a tak little bigger, an by an by it bean all ete up. So das vay moste ve du try vat bean best for our locality, den tak bigger bite; but if ve tak very big bite ve moste chaw fast.

Vell, if ve have nice vedder ay bean come over *next week*. YON YONSON.

GENERAL ITEMS

Pear-Blight Not Caused by Bees.

In regard to pear-blight, I can say that bees have nothing to do with it. If they have, they must have come some 10 or more miles to blight the trees here some years ago, and the trees where bees were, 12 miles from here, were full of fruit and no blight.

Ontario, Canada. THOS. ARCHER.

Craves a Warmer Clime.

Last year, about the same time of the year that you were at Denver this year, I made a trip into the mountains, and I also went up to Silver Plume, as well as up Pike's Peak, so I have been there, and know how to appreciate what you have to say about the grandeur of the mountains. I now think some of spending three months in California next winter (after New Year's) if nothing prevents. I do not like our cold and windy winters. It was all right when I was young, and for many years from 1857 onward I enjoyed hunting on the plains, even in the winter. But that good time has passed long ago. I am nearly 72 years old, and the fire of youth is vanishing, so that I begin to feel it. I crave for a warmer clime when the cold of winter is upon us.

Hall Co., Nebr., Oct. 24. WM. STOLLEY.

Little Surplus—Robber-Bees.

Bees here did store a little surplus honey late this fall. But there is not half the honey this year that there was last. It is nice, clear honey. The moths bother some. Neighbors' bees have robbed some, but mine did not rob or get robbed yet, that I know of. Some neighbors lost some colonies that were robbed. CHAS. ELLIS.

Newton Co., Ind., Oct. 27.

No Surplus Honey.

This has been the poorest honey season I have had in 50 years' experience in bee-keeping. The bees started out fine in the spring, commenced to swarm about April 1, and quit on May 18. I was not expecting them to swarm, as the most of them had given up the swarming craze. I had 80 first swarms, but am doubling and trebling all of the colonies, and will have to feed them. No surplus honey from any of the colonies. D. C. MCLEOD.

Christian Co., Ill., Oct. 27.

Large Queens and Hives.

I notice first and last there is considerable discussion in the Bee Journal about large, prolific queens. I want to say that from careful experience and observation in the queen-rearing business for 20 years I find the largest queens almost as objectionable as the small, dark queens. When compared with a medium-size, well-nourished queen that has a long, but good-sized pointed abdomen, these queens are the most prolific, the longest lived, will lay earlier in th spring, and their work-

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White Clover	1.20	2.30	5.50	10.50
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ers will have the same pointed, tapering abdomen as the queen, and they are more active in the field and in building comb than are workers reared from extra-large, full-rounded, tipped-abdomen queens, although queens, in most instances, of this shape and size are apt to produce the largest workers—they are like the queens, slow and dull in their movements compared to a pointed-shaped abdomen queen's workers.

I do not want extra-large queens for profitable purpose because they are a failure.

One way to get extra-large queens, remove the queen-larva from a well-fed cell when about four or five days old, and drop in its place a worker-larva 18 or 24 hours old, little less than a half in size of the queen-larva you took out. By this you get extraordinary development of the queen thus bred. They are fine to look at, and, of course, would tickle the eye of the breeders clamoring for large queens, but I do not want them myself for business.

I indorse big hives, and use a Jumbo 10-brood-frame Langstroth size, and 120 sections $1\frac{7}{8}$x$4\frac{1}{4}$x$4\frac{1}{4}$, or in lieu of sections I use 20 Langstroth frames in the top story.

Bibb Co., Ga. ABNOTT L. SWINSON.

Stealing Bees.

On Oct. 8 some persons took from my bee-yard a hive of bees—took it over a stump fence and down a steep bank, and robbed it of the contents. I know it was more than one, as one person could not lift it over. What is the law for such proceedings? and what can be done if the persons are caught? Has a man a right to shoot them if he catches them among the bees in the night? At the place where they robbed the bees they left a large iron spoon and a piece of mosquito-netting—a yard and a half; it was taken to the store and matched, as it was sold the night before the bees were stolen.

Last spring I moved the bees from the garden near the house, as it was too near the road, and they began to be troublesome, and I did not want to have any trouble with my neighbors, so I took the bees back to the end of a field, I should say about 200 rods from the house. I moved them on a hand-sled at night, during the month of April; it was very hard pulling, but I got them there—39 heavy colonies and 3 light ones.

My bees did not swarm very much this year, some colonies have done well and some have not stored any surplus, but they are pretty heavy.

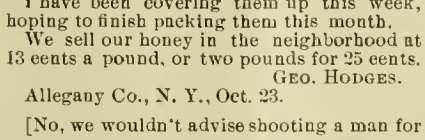
I have been covering them up this week, hoping to finish packing them this month.

We sell our honey in the neighborhood at 13 cents a pound, or two pounds for 25 cents.

GEO. HODGES.

Allegany Co., N. Y., Oct. 23.

[No, we wouldn't advise shooting a man for stealing honey. You might shoot near him and frighten him. But if you can find the culprits who helped themselves to your hive, it might be well to have them arrested and fined, or jailed awhile.—EDITOR.]



A Symposium on Shook or Brushed Swarms.

This appeared in Gleanings in Bee-Culture, and from the many good things contained therein, some extracts are here given:

While this method seems to be coming to to the front just now, it is no new thing—in fact, it is quite old with me. I have practiced it to some extent for a good many years—not on all my colonies, but only on those that were making preparations to swarm, or some small out-apiary that I could not well afford the time to watch. When the

Some Renewal Subscription Offers!

As the time is drawing near when a large majority of the readers of the American Bee Journal renew their subscriptions for another year, we thought it would be well to put before them in one place a few of our clubbing offers that they might like to take advantage of. We will number them, so that if you will order by number no mistake will likely be made at this end of the line. Here they are:

No. 1—	The Bee Journal a year and Prof. Cook's "Bee-Keeper's Guide,"	Both for $1.75
No. 2—	The Bee Journal a year and Dadant's "Langstroth on the Honey-Bee,"	" 1.75
No. 3—	The Bee Journal a year and Doolittle's "Scientific Queen-Rearing," (cloth bound)	" 1.60
No. 4—	The Bee Journal a year and Doolittle's "Scientific Queen-Rearing," (leatherette bound)	" 1.40
No. 5—	The Bee Journal a year and an Untested Italian Queen (to be mailed in May, 1903)	" 1.50
No. 6—	The Bee Journal a year and a "Novelty Pocket-Knife" with your name and address on it	" 1.90
No. 7—	The Bee Journal a year and a "Wood Binder," for holding a year's numbers	" 1.00
No. 8—	The Bee Journal a year and an "Emerson Binder," (stiff board)	" 1.40
No. 9—	The Bee Journal a year and a Monette "Queen-Clipping Device,"	" 1.10
No. 10—	The Bee Journal a year and Newman's "Bees and Honey," (cloth bound)	" 1.50
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No. 12—	The Bee Journal a year and a Corneil Smoker	" 1.80
No. 13—	The Bee Journal a year and a "Porter Bee-Escape	" 1.10
No. 14—	The Bee Journal a year and a No. 2 Bee-Veil (50 cent veil)	" 1.30
No. 15—	The Bee Journal a year and a "Globe Bee-Veil ($1.00 veil)	" 1.80
No. 16—	The Bee Journal a year and an Alley "Queen and Drone-Trap,"	" 1.50

Of course all the above will be sent postpaid. We should be pleased to have all who can do so send in their orders at once, so as to cause less delay than there would be when so many renew their subscriptions at nearly the same time—from Dec. 15 to Jan. 15. We will try to do our part in filling your orders promptly.

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½ " " " " "	3.75	1-lb. Keystone, spring top, gross,	5.25
5-oz. " " " "	3.00	1-lb. Octagon, spring top, gross,	5.25
		¾-lb. " " " "	4.75

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100 lbs. white sweet-scented clover,	$10	100 lbs. White Dutch,	$20
100 lbs. yellow " " "	$15	1 oz. Catnip seed,	10c
100 lbs. Alfalfa clover,	$12	1 oz. Rocky Mountain Bee-plant,	15c
100 lbs. Alsike clover,	$15	1 oz. Eucalyptus seed,	20c

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the Nickel Plate Road will sell tickets within distances of 150 miles, Nov. 26 and 27, at rate of a fare and a third for the round-trip. Tickets good returning until Nov. 28, inclusive. This road has three express trains daily to Ft. Wayne, Cleveland, Erie, Buffalo, New York and Boston, with vestibuled sleeping-cars. Also excellent dining-car service, meals being served on Individual Club Plan, ranging in price from 35 cents to $1.00; also a la carte. For reservation in sleeping-cars or other information, address John Y. Calahan, General Agent, 113 Adams St., room 298, Chicago. City ticket office, 111 Adams St. 'Phone Central 2057.

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A New Bee-Keeper's Song—

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Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

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apiary was large, and much swarming expected, I have usually noted those most likely to swarm.

Then in the afternoon, when the yard was quiet, and little or no swarming expected, I have anticipated their plans a little by artificially swarming them, and in this way avoided much annoyance, confusion, and demoralization of all the bees in the yard that a swarming-panic might create.

It is important that the bees should be gathering honey and secreting wax in order that their work of comb-building may be begun at once in the new hive, unless feeding is to be resorted to, in which case it is better to give the colony at least one liberal feed 24 hours before they are swarmed. The colony to be swarmed should be strong in bees and brood, and have a laying queen.—H. R. BOARDMAN.

Blacks are much more apt to swarm out than Italians. Carniolans build comb faster than the others, and build up quicker; or, at least, those in one of Coggshall's apiaries here do. The brood is to be put into a new hive and set facing away from the swarm. I stop the entrance with green grass; and by the time the grass wilts the colony is able to care for itself. In filling the hive with brood I put in ten full frames, the combs of honey or those with but little brood being put either on other colonies or extracted. This makes less increase and stronger colonies. Sometimes there will be brood from three different hives to make one.—HARRY HOWE.

M. A. Gill has practiced the plan for years, and among other things says:

This plan I consider the most sensible one for transferring from box-hives or crooked combs, only we are compelled to drive instead of shake, and the only plan by which we can successfully cope with foul brood.

If this plan is diligently followed through the honey season with all colonies that show even one cell of foul brood, we do not come up to winter with a lot of colonies that must be burned to prevent the spread of the disease. A colony that develops the disease in the fall after the honey season is past will live until the beginning of the next honey season in fair condition, when it can be shaken; hence, the great loss from foul brood is found only among careless bee-keepers.

In practicing this plan in out-apiaries I examine every six days, and shake every colony that has eggs in the cell-cups. Of course, this makes some swarms a little premature, say from four to six days before the swarm would emerge by the natural plan; and unfavorable weather conditions sometimes make you wish you hadn't; but it also makes the natural swarm wish they hadn't.

E. E. Atwater gives these points to be observed:

1. Shook swarms must be very strong.
2. A comb of brood will usually obviate danger of pollen in sections.
3. Supers must contain bait-combs, or, better, be taken from colonies well at work in the sections.
4. In the arid region, with its cool nights, brood from shook swarms must always be under the care of a large force of bees, to prevent loss by chilling.
5. Last, and of great importance, the shook swarm must be strengthened several times during the flow.

Walter S. Pouder disposes of the brood as follows:

I have always disposed of the remaining brood in two ways—by strengthening weak colonies and by tiering up over an excluder for extracting. I have tiered as high as five stories, and it seemed to me that such colonies contained a barrel of bees. In such cases I allowed only three or four combs of brood in the lower chamber, filling the remainder of the hive with empty combs or foundation in order that the queen might have plenty of room. As fast as the brood hatched in upper stories they filled the empty cells with honey, making the way possible for a large yield, and greatly improving the results from the hives from which the brood was taken.

Editor Root gives four important claims in favor of the plan, all of which look reason-

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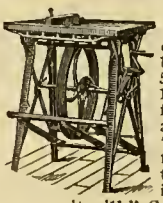

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

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Two ounces of this seed will give you a good start of one of the best honey-producing plants known. We will also send to the new subscriber on this offer the rest of this year's Journals free. Address,

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able, except that the third applies to natural swarms as well. His four points are these:

1. Swarming can be controlled at out-yards with small brood-chambers, when run for comb honey. This is of tremendous importance, if true.

2. A brushed swarm may be stronger and produce more comb honey than a natural one, because the former may have *all* the flying bees, and subsequently receive, at a second drive, the brood that is hatched from the parent colony. If reports may be believed, such a powerful force of bees in one brood-nest means a larger yield of comb honey.

3. It appears that starters are just as good as full sheets of foundation, under some conditions at least. If this is true, it will save buying some brood foundation. If a young queen is in the hive, and the supers are put on soon enough, it is asserted that worker-brood will be reared about as fast as the queen can take it. But suppose that drone-comb is built out instead of worker, no great harm results, it is argued; for such comb can be cut out and melted up, for every one knows that wax sells at a good price; and some there are who believe that wax and comb honey can be produced simultaneously, with profit and to advantage.

Yes, it has been urged in times past that, in a heavy honey-flow, bees will secrete wax *involuntarily;* that if the wax-scales are not used in comb-building they will be wasted. The inference is, that the brushed swarm with foundation starters can and does utilize this surplus wax. If this be true, the foundation bill can be cut down 75 percent, and, in addition, save wax-scales.

4. Another incidental result—that pointed out by Mr. Howe in this issue—is that foul brood can be kept under control: for the brushed-swarm plan has some of the principal features of the McEvoy treatment of curing this disease. I believe there may be something in this; for years ago, in our own yards, we cured something like 50 or 60 colonies of foul brood by merely shaking the bees on frames of foundation. Then the plan of brushing the swarms, or shaking them, will hold either foul brood or black brood in check; and perhaps cure it altogether in localities where the disease is raging.

CONVENTION NOTICE.

Chicago - Northwestern. — The executive committee of the Chicago-Northwestern Bee-Keepers' Association have planned to hold the best convention ever convened in Chicago. The date is Dec. 3d and 4th, Wednesday and Thursday. Five eminent bee-keepers have been invited, and are expected to attend. More definite announcement later. Watch for it. Reduced rates on account of the fat stock show, which is held Nov. 29th to Dec. 6th.

HERMAN F. MOORE, Sec.

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at rate of a fare and a third on all trains of the Nickel Plate Road, on Nov. 26 and 27, to points within 150 miles, and good returning to and including Nov. 28. Chicago Depot, Grand Central Station, Harrison St. and Fifth Ave. City Ticket Office, 111 Adams St. 'Phone Central 2057. 59-45A3t

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50 or 75 colonies of BEES in Florida. Italian or Carniolans preferred. State what you have, kind of bees, hives, and price, with or without top stories. J. ALPAUGH, Galt, Ont., Can.

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Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

A B C of Bee-Culture, by A. I. Root.—A cyclopedia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 60 cents.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, bound in cloth. Price, in cloth, 50 cents; in paper, 30 cents.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cents.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Bienen-Kultur, by Thomas G. Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00.

Dr. Howard's Book on Foul-Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. Price, 30 cents.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. 10 cts.

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WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Oct. 9.—The advance noted in our last quotation has been maintained, and there is a very good demand for honey at the present time. No. 1 to fancy white comb brings 15@16c per pound, with the lower grades selling at from 2 and 3 cents less; this includes the light amber. Dark grades of amber sells at about 10@11c, and buckwheat 9@10c. Extracted is steady with white bringing 6¼@8c, according to color, flavor and quality; the amber brings from 6@7c; dark, 5½@6c. Beeswax in good demand at 30c. R. A. BURNETT & Co.

ALBANY, N.Y., Oct. 24—The receipts of honey do not increase any, and there is a good, stiff demand at good prices. Ruling prices are 15c for white, and some extra fancy, 16c; buckwheat and dark, 13½@14c. Extracted, dark, 6½c; mixed, 6½@7c; white, 7@7½c. Beeswax, 30c. H. R. WRIGHT.

BOSTON, Oct. 20.—Our honey market remains firm, with good demand and fair stocks on hand. Honey is not coming forward as fast as usual, and the tendency of prices is steady. We quote our market as follows: Fancy white 1-pound sections in cartons, 16c; No. 1, 15c; No. 2, very light supply, 14c; glass-front sections generally one cent less than this. Extracted, light amber, 8c; amber, 7½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Oct. 20.—The receipts of comb and extracted honey are light, and demand steady at quotations: Fancy white comb, 14½@15cc; No. 1 white, 14@14½c; No. 2 white and amber, 13@13½c. White extracted, 7@7½c; amber, 6@6½c. Beeswax, 24@26c.

C. C. CLEMONS & Co.

CINCINNATI, Oct. 4.—The demand for extracted honey is good at the following prices: Southern and amber sells at 5½@6½c; better grades, 7@8c. Comb honey is scarce; fancy and No. 1 sells on arrival at 16@17c. Beeswax weak at 28c. THE FRED W. MUTH Co.

NEW YORK, Oct. 10.—We are having a good demand for comb honey and receipts are quite plentiful. We quote fancy white at 15c, and some exceptionally fine lots will bring from 15½@16c; No. 1, white, 13@14c; amber, 12c.

Buckwheat is late arriving, and none has been on the market as yet to cut any figure. We expect large receipts next week, and it will sell at from 10@12c, according to quality and style of package.

Extracted in fairly good demand at 7½c for white, 6½c for light amber, and 5½@6c for amber. Southern in barrels at from 55@65c per gallon. Beeswax nominal at 28c.

HILDRETH & SEGELKEN.

CINCINNATI, Oct. 27.—The demand for comb honey is good and prices are a little better, as the supply does not meet the wants. Extra water-white fancy is selling as high as 16@17c; other grades less, according to quality. Extracted is very active and prices are a little better; amber, 5¼@5½c; alfalfa, 6½@7c; white clover, 7½c. Beeswax, 28c. C. H. W. WEBER.

SAN FRANCISCO, Oct. 15.—White comb honey, 12@12½c; amber, 8@10c; dark, 7@7½c. Extracted, white, 5½@6c; light amber, 5¼@5½c; amber, 5@5¼c Beeswax, good to choice, light, 27@29c; dark, 25@26c.

There are no heavy offerings of any description, either at this center or at producing points. Comb honey is in better spot supply, however, than extracted. Stocks of latter have been greatly reduced by recent shipments outward. Current values are being well maintained.

Wanted —Extracted HONEY Mail sample, and state style of package and price delivered in Chicago.

John F. Campbell, 53 River St., Chicago, Ill.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., NOV. 13, 1902.

FORTY-SECOND YEAR
No. 46.

EMERSON T. ABBOTT AND WIFE, OF BUCHANAN CO., MO., THEIR HOME, AND SOME OF THEIR LIVE-STOCK.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

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EDITOR—George W. York.
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SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, A. Getaz, and others.

IMPORTANT NOTICES.

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OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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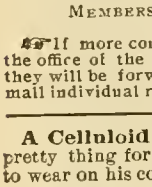

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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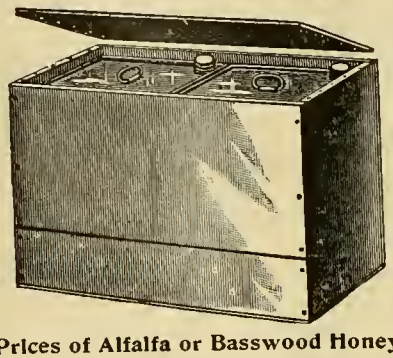

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A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 9 cents per pound; 4 cans or more, 8½ cents a pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

(THIS CUT IS THE FULL SIZE OF THE KNIFE.)

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The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., NOV. 13, 1902. No. 46.

Editorial Comments.

Keeping Combs of Pollen.—To preserve combs of pollen from one season to another, it has been recommended to dust well with powdered sugar the cells containing pollen as a protection against mold. In addition to this, some say sprinkle water over the sugar that is sifted on, treating only one side of the comb, then in a few days, after this side has become dry, treat the other side in the same way.

Generally, pollen may be left safely in care of the bees, especially if left near the middle of the brood-nest. But you may have combs of pollen outside the hives. If no honey be in the comb containing the pollen, don't put it in a damp place fitted to encourage mold, but, if you can do no better, leave it outdoors protected from mice and rain. Mold will hardly trouble it before severe freezing, and it will certainly not take any hurt during severe freezing weather, nor till well along in the spring. Then, before it gets warm enough for it to hurt, either by drying or molding, give it in care of the bees. They will turn it into brood.

Electing Officers at Conventions.—Mr. F. L. Thompson doesn't like the way officers of bee-keepers' associations are generally elected. In an article in the Rocky Mountain Bee Journal he gives the following as the usual form of proceeding:

"Mr. President, I nominate So-and-So for president," (or secretary or treasurer, as the case may be). No other nominations. "Mr. President, I move the secretary be instructed to cast the ballot of the association for So-and-So as president." Seconded and carried. So-and-So is then supposed to be the choice of the association.

Perhaps he is; and perhaps he isn't.

This seems to result in electing usually the first man named, whether the best man for the place or not. Instead of this we should have the very best man available for the place, and there should be full opportunity to have each member suggest the man he thinks thus fitted. As to the means of accomplishing this, Mr. Thompson says:

There is only one way to do this, namely, by taking an informal ballot before the decisive one, and doing away with verbal nominations altogether. The informal ballot is the best kind of nomination, because it is a nomination by everybody who has ideas of what he wants. Verbal nominations are made only by a few, who may not come near covering the field. After an informal ballot, every one knows clearly what to choose between; after a verbal nomination he is often not conscious of much more than the temporary and adventitious prominence of those actually named. One may very readily, for the time being, even forget the existence of as efficient workers (or even more efficient ones) as those who happen to be named.

Entirely right, Mr. Thompson. The moment a name is mentioned on the floor of the convention, that moment the personal element enters, and any one making a second nomination is likely to be considered more or less as antagonizing both the previous nominee and the man who nominated him. With the informal ballot all this is avoided. Then the formal ballot which follows is made intelligently.

It may be objected that balloting takes time. If there is to be a very short session, there may be some weight in this. But with one or more sessions of considerable duration, a good presiding officer will expedite matters so as to save a good deal more time than that lost in balloting. At any rate, if we want the best of anything, we must be willing to pay something for it.

Bee-keepers, perhaps, are not less informed on this subject than are other people. But, really, it was laughable to see how the election of officers was conducted at the Denver convention. We think it was the most poorly managed of anything we ever saw in that line. For instance, nominations of candidates was allowed first, and then what was called an "informal" ballot was taken! The informal ballot, as we understand it, is to take the place of public nominations. Then, afterward, the formal ballot is taken, which is to elect one from the persons nominated by the informal ballot.

We do not believe in public nominations for office, nor in nominating-committees. Neither method is fair. The informal ballot first is the best way, especially for important offices.

Hiving Swarms on Starters.—A practice that has been a good deal recommended is to hive a swarm on four or five frames furnished with narrow starters, and then when these frames are filled out to give the remaining frames filled with foundation. In Gleanings in Bee-Culture G. M. Doolittle gives a kink that is new, and it has a good look. When the five frames are given at the start, one or more of them are likely to have drone-comb started in them, and when once started it is likely to be continued to the bottom of the frame. So Mr. Doolittle fills the hive with frames at the start, and 36 to 48 hours later he takes out half of them, leaving those that have only worker-comb in them, and these will be filled out with worker-comb.

A Hive-Scraper.—R. D. Cleveland sends a pen sketch of a tool that he finds very useful as a hive-scraper. He says, "It is nothing but a common three-cornered scraper, but it 'everlastingly scrapes,' and with the angles and points to the head, you can scrape on all sides and into all corners with it." The tool is an excellent one, although by no means new, and a blacksmith can make one by fastening a handle into the center of one of the sections of the sickle of a reaper or mowing machine. For ordinary use in scraping hives nothing is better, although when it comes to the wholesale cleaning off the tops of brood-frames some who have tried both say they prefer a common hoe, well sharpened. It does the work as well, and much more rapidly.

Apiarian Ignorance in High Places may be productive of much mischief. Mr. David J. Ott, of Spottsylvania Co., Va., writes as follows:

EDITOR YORK:—It looks as if some people—especially those who hold public offices—can not tell the straight thing about bees, else they do not try to find out—I don't know which.

Our Commissioner of Agriculture has an article in the Richmond Dispatch, headed, "Pure Food Crusade." Of course, the most of this article is all right, but I don't think the part about bees will "hold water" very well.

Yours respectfully, DAVID J. OTT.

The clipping sent us reads thus:

SMALL CONFECTIONS.

"The children will buy cheap candy, and much of this is dangerous. It is adulterated with terra alba arsenic, sulphate of copper, and prussic acid, and is colored with aniline dyes.

"Licorice drops are often composed of sweepings of the candy factory. One plate of cheap strawberry ice-cream may contain as much fusel oil as five glasses of bad whiskey; it is a chemical product purely. Imitation leaves on fancy cakes are colored with Paris green. Maple sugar is glucose; honey is glucose. But glucose is harmless, and, therefore, to be passed over. It is said, by the way, that bee-keepers, besides furnishing paraffine combs for their bees, are feeding the insects on glucose to increase the amount of honey stored."

It is amazing that one holding so important a position should fail so utterly to inform himself as to the truth. The sweeping statement, "Honey is glucose," is likely to carry the impression that no pure honey is to be found. What, then, becomes of the tons of that delicious product stored by the bees each year?

"It is said, by the way, that bee-keepers, besides furnishing paraffine combs for their bees, are feeding the insects on glucose to increase the amount of honey stored." When a man assists in giving currency to a stupendous falsehood, he may screen himself behind the all-embracing "It is said," but the moral effect is much the same as if he makes the statement that to his certain knowledge the thing that "is said" is actual fact.

The great probability is that the gentleman in question has regard for the truth, but has suffered himself to be exceedingly careless. It is quite possible that he may do as some others in like position have done, inform himself fully upon the subject and then make the public statement that no such thing as paraffine combs are in existence, and even if they could be had that making a profit by getting the bees to store glucose in them is a thing out of the question.

The Weekly Budget.

NO MORE QUEEN ORDERS for delivery this fall can be taken at this office. All received after this time will be entered for mailing next May. We are receiving orders at 75 cents each for an Untested Italian queen; or for $1.50 we will mail the Bee Journal a year and the queen; or if a paid-in-advance subscriber sends us $1.00 and a new name for the Bee Journal a year, we will send a queen free as a premium to the paid-in-advance subscriber.

NOMINATIONS FOR DIRECTORS.—We have received the following on nominations for directors of the National Association:

EDITOR AMERICAN BEE JOURNAL:—

To fill the vacancies of the terms of the three directors in the National Bee-Keepers' Association, expiring Jan. 1, I nominate G. W. Vangundy, of Utah; Wm. A. Selser, of Pennsylvania; and Wm. McEvoy, of Ontario, Canada.

I believe these gentlemen are all practical bee-keepers, and interested in the welfare of the Association.

Yours very truly, EMERSON T. ABBOTT.

Homer H. Hyde, of Wilson Co., Tex., has this to say on the same subject:

MR. EDITOR:—As the time draws nigh for the election of some new directors for the National Bee-Keepers' Association, I wish to make a nomination and present a Texas claim for a member on the Board of Directors. Texas is the largest State in the Union, and, according to the last census, produces more honey yearly than any other State. The industry is rapidly gaining ground; many beginners are going into the business on a large scale, and there is a constant emigration of bee-keepers here from other States. Recently our Association secured an annual appropriation from the State Legislature, and we now have a well-equipped experiment apiary with a competent superintendent. Bees only are not being experimented with, but also different forage-plants; and, last but not least, there will be regular classes in bee-keeping at the A. & M. College of Texas, where the apiary is located. Not alone will our claims be apparent to Texas, but as well to the entire South, which, at present, is without representation on the Board of Directors. Our Association members are members of the National, and we feel we need recognition.

I, therefore, wish to nominate Mr. Udo Toepperwein as a candidate for director. HOMER H. HYDE.

MR. D. G. PARKER, of Brown Co., Kans., wrote thus Nov. 3: "It has been a poor honey-year, but the American Bee Journal is as good as ever." Thank you, Mr. Parker. And the prospects are that it will be *better than ever* the coming year. It will soon enter its 43d year. Surely, it has stood the test of time, and as to its value to bee-keepers—well, it seems to satisfy thousands of them. But thousands more will be able to testify to its merits when once they have made its acquaintance. It has no hobbies, except that of the best interests of its readers.

THE CHICAGO CONVENTION, to be held Wednesday and Thursday, Dec. 3 and 4, at the Briggs House, northeast corner of Randolph Street and Fifth Avenue, promises to be largely attended. Nearly every day we are hearing from bee-keepers who expect to be present. It can easily be the biggest and best bee-keepers' convention of the year. Everybody within a radius of 200 or 300 miles of Chicago wants to come here at least once a year, and the fall is just the time to come. The first session will begin at 10:30 a.m., on Dec. 3.

Honey as a Health-Food is the name of a 16-page leaflet (3½x6 inches) which is designed to help increase the demand and sale of honey. The first part is devoted to a consideration of "Honey as Food," written by Dr. C. C. Miller. The last part contains "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by every one who has honey for sale. It is almost certain to make good customers for honey. We know, for we are using it ourselves.

PRICES, prepaid—Sample for 2 cts.; 10 for 10 cts.; 25 for 20 cts.; 50 for 35 cts.; 100 for 60 cts.; 250 for $1.25; 500 for $2.25; 1000 for $4.00. If you wish your business card printed at the bottom of the front page, add 25 cts. to your order.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

The Premiums offered this week are well worth working for. Look at them.

Convention Proceedings.

THE DENVER CONVENTION.

Report of the Proceedings of the 33d Annual Convention of the National Bee-Keepers' Association, held in Denver, Col., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 711.)

Pres. Hutchinson—There was a committee I failed to announce, which was to look after the question with the Government, with reference to co-operation, and so on. I will name the committee now: Messrs. J. U. Harris, R. L. Taylor, O. L. Hershiser, George W. York, and F. E. Brown.

Pres. Hutchinson then called on Mr. H. C. Morehouse, of Colorado, to present his paper, entitled: "Bee-Keeping Lessons that May be Learned from the Word 'Locality.'"

Mr. Morehouse—The topic assigned me by the Program Committee is one which I am sorry to say I do not know very much about.

Dr. Mason—We can tell better when you get through.

Mr. Morehouse—All right. The paper is as follows:

BEE-KEEPING LESSONS THAT MAY BE LEARNED FROM THE WORD 'LOCALITY.'"

"Locality," in the sense in which we apply it to bee-keeping, means environment. The word "locality," as defined by Webster, means place, or geographical position. In bee-keeping we attach to it a much broader meaning, which comprehends not only geographical relations, but the influences of latitude, longitude, altitude, soil, meteorological conditions, and, in fact, everything that may be embraced in the term environment. According to our most learned observers of natural phenomena, environment is the controlling factor in the wide distribution of species of both animal and vegetable life, and the diverse racial characteristics of each. The same authorities also inform us that heredity has almost an equal potency, and that, together with environment, determines the destinies and accounts for the varied and peculiar characteristics of all the myriad forms that manifest life upon this planet. We learn from this that environment, or "locality," as we bee-keepers term it, is a mighty predestinating force in the world at large, and looking a little closer to our subject, I believe we will discover that it reigns with equal and inexorable power in that little corner of the universe that is comprehended in the world of apiculture.

It was not until recent years that locality was recognized as an important factor in bee-culture. Like all new ideas, this one, when first advanced, was greeted with derision. Now, there is a tendency toward the other extreme, and it is quite popular in the current bee-literature to solve the various puzzles of the bee-yard by broadly charging them to locality. Indeed, with some writers it has become the veritable philosopher's stone of apiculture.

I believe it is our neighbor Coggshall, over in New York, who, in enumerating the essentials of success in bee-keeping, places locality first of all. This is an estimate of its importance by one of the most extensive and successful bee-keepers in the world.

Locality, in the lexicon of apiculture, means not only the effect of environment upon the nature and habits of the bees themselves, but upon the honey-producing flora as well.

The first great lesson, then, to be learned in regard to locality is variation. There is a world-wide difference between New England and Colorado, and between Colorado and Texas, or Texas and California. Natural environments in these localities are very dissimilar, and the creatures of these environments are just as dissimilar as the environments themselves. A veteran bee-keeper from the verdant hills of old Vermont would make a flat failure were he to bring his apiary to Colorado and manage it the same as he has been accustomed to doing. The system of management that is suited to Southwestern Texas would not succeed at all in Southern California, or perhaps anywhere else but in Southwestern Texas. The same would be true in the comparison of nearly all other lacalities, and, coming nearer home, I will venture to say that the management that gives the best results over on the Western Slope would not insure the same measure of success, without some modifications, on this side of the Rockies. It is not necessary, in this paper, to point out specifically any of these marked differences or variations.

To conclude this paper, I wish to emphasize as the paramount lesson to be learned from considering the word "locality," the importance of every bee-keeper becoming thoroughly familiar with his own immediate locality. To do this is the study and work of a lifetime, but, having acquired such a knowledge, even if to only a fair degree, one has at hand the elements of almost sure success in bee-keeping. You may write it down as an axiom that the man who does not understand his locality is not a bee-keeper in the Twentieth Century sense of the word.

I would amend Mr. Coggshall's statement of qualifications by placing *knowledge* of locality first. I know of some men who are making a good living from bee-culture in localities so poor that the majority of us would not think it worth while trying. They are succeeding because they understand their localities, and are taking every advantage possible. I also know of men in the best districts of Colorado who keep bees, but purchase all the honey that ever appears upon their tables. They pay no attention to locality, and very little to the bees themselves, and they will invariably tell you that bees are more trouble than they are worth—that they don't pay. Resolved down to its last analysis, success in bee-culture depends almost wholly upon the man, and the man will be successful just in proportion as he understands his locality and adapts his management to suit his peculiar needs. H. C. MOREHOUSE.

Pres. Hutchinson—The subject is before you for discussion.

Dr. Miller—I believe we are very unwise to tire ourselves out; the interims between the sessions are filled up with visiting, and that is more or less wearing, and when we take a long afternoon session we are unfit for the evening work. We have had a good deal this afternoon that was not regularly upon the program, so that we will not be able to go through the whole of the program, but I believe it would be very wise for us to defer until to-morrow, when nothing of that kind will come in, and I believe we can then easily dispose of all there is upon the program. It is now 20 minutes to 5, and I, therefore, move that we adjourn until this evening, at 7:30 o'clock.

Pres. Hutchinson put the motion, which had been seconded, and, on a vote having been taken, was declared carried, and the convention was adjourned until 7:30 p.m.

After the adjournmennt the members and their friends gathered on the steps of the eastern entrance to the State Capitol building, when Pres. Hutchinson took a group photograph.

SECOND DAY—EVENING SESSION.

At 7:30 p.m. Pres. Hutchinson called the convention to order, and after vocal selections by Miss Brown, of the Denver College of Music, Prof. C. P. Gillette, of Fort Collins, Colo., delivered his interesting lecture on "The Outside and Inside of a Honey-Bee," illustrated by the stereopticon.

During the course of the lecture many questions were asked by those present, which were very good-naturedly and patiently answered by Prof. Gillette. The convention then adjourned until Friday morning, at 9 o'clock.

THIRD DAY—MORNING SESSION.

Pres. Hutchinson called the convention to order at 9:45 o'clock, and the first thing he announced the committee on the matter of pear-blight: Messrs. F. E. Brown, Frank Benton, and M. A. Gill. He also appointed a committee on resolutions, viz.: Dr. C. C. Miller and James A. Green.

THE LOUISIANA PURCHASE EXPOSITION.

Dr. Mason—I have had some correspondence with Mr. Taylor, who represents the Agricultural and Horticultural interests for the Louisiana Purchase Exposition at St. Louis, or, rather, he has been corresponding with me. I am happy to state to you that Mr. Taylor has been able to get here, and he is with us this morning, and can speak to you himself. We are very glad to have him with us this morning, and he can tell us just what he wants, so much better than by writing.

Mr. Taylor—I should have enjoyed the next five minutes a great deal better to sit here and listen to one of these

warm scraps, and I thought you were getting up one for my benefit, so that as a stranger and sojourner I might see just how you do it; but I suppose that is one of the necessary adjuncts of being a bee-keeper, that you learn to push your stinger out once in awhile and stick it into somebody else. [Applause.] I think it is done good-naturedly; in fact, I never had a bee sting me but what I thought it was in fun, but sometimes it hurts just the same. I used to be quite a bee-keeper when I was young, and didn't know any better. My father was a nurseryman and horticulturist, and, incidentally, a bee-keeper in a small way, and whenever he got stung on the right elbow his left eye was always swelled shut. He was a Sunday-school superintendent, and it didn't look well to have him in that condition, so if we were doing anything with the bees on Saturday he let me do it; I could stay at home on Sunday and get fixed up. [Laughter.]

I am here to say something with regard to the Universal Exposition to be held in St. Louis in two years from now, and in which we want the co operation, as we are very sure we will have it, of this organization, which is so strong an institution among the bee-keepers.

I find about the first thing I have to do, in speaking with people about the Exposition, is to start a kindergarten for two or three minutes, and get down to first facts as to what we are going to have. An old friend down in Nebraska, where I used to live, wanted to know if we were hoping to have as large and successful and expensive an Exposition as they had in Buffalo. I said I hoped so, because we have got about ten times as much money to spend. They were about $3,000,000 behind, and proportionately we would be $30,000,000 in debt when we get through. I shall attempt to collect my salary on the first of every month, so that they won't owe much of that $30,000,000 to me.

Here is one thing which will perhaps illustrate the scale on which that Exposition is being built. The department of agriculture, which comes within my charge, has for its reception under preparation a building the ground area of which will be nearly 25 acres; it will be the largest building ever built in the world at any Exposition for the reception of a single department. So far as I know, there have never been but two larger constructed; one of those was to contain two of the large and important departments in Chicago, the other was to contain the entire Exposition in Vienna, in Austria, in 1873. The agricultural building is much larger than the one in Chicago. The same is true of the building for horticultural, the same is true of practically every department; there are none of them housed in buildings smaller than those in Chicago, and a number of them in buildings from a little to a good deal larger. I speak of that not to disparage Chicago, because that was the most beautiful thing that has ever happened up to this time, and it would be preposterous for us to claim we are going to have a more beautiful Exposition than that. When we get through, and have gone on record, and you have all been there and seen it, if you are able to say we have had a larger and better Exposition scientifically, and from every point of view, we shall be happy; if that is not that case it will not be because we do not try.

As to what we are going to do for bees and bee-keeping: In this building of agriculture, covering 25 acres, will be brought together all of the agricultural and allied exhibits. By that I mean agricultural implements, dairy foods and their accessories, and those things which have, in some other Expositions, been put off in separate or lean-to buildings. This is all first floor; there are no gallery spaces; you will not be put upstairs nor down cellar, but on the first floor, where you will be just as well situated as the man who puts up a million dollar exhibit. If that does not bring out from you splendid installation and splendid material and sufficient quantities of it to make the best exhibit that has ever been shown in this country, I will leave it to you as honest men and women, whose fault will it be. It won't be ours. We wish to make the portion of the building assigned to apiculture precisely the sort of building that you want, and if there are any suggestions as to the way in which it should be allotted or done, or in the form in which you want those, so far as they are reasonable and consistent and fitting in accordance with those things which concern them, to that extent they will be accepted and used. I don't say that exactly the propositions that you bring can be incorporated exactly as they are brought up, but they shall have most respectful and careful attention, with the wish to make exactly what you want out of the portion of the building assigned to you for exhibits. The exact way in which the details of that will be handled I don't know, and I don't suppose that it is necessary to know.

I should be very glad, indeed, to have some expression from this organization, either directly or through its officials, the executive committee, president, secretary, or anybody else who is officially ordered by the Association to do it. I would be glad to have suggestions from them, and if any occur to any of you that are here, I would be glad to have them either at this time or through the proper channel in due time.

It is our business to house the exhibits, nothing else; we furnish the roof and the floor, and the air for you to breathe—we don't charge you for any of them—and the other things you supply yourself. There is no space charged for State or individual exhibits as there has been a many other Expositions; there will be no charge for the amount of floor-space which you need; you will have to put up your own installation, or if we put up special installation for honey and honey exhibits you will be expected to pay for your proportion of the construction, that is all. But so far as the building and floor and all that is concerned, it will be absolutely free. That means, if you come there and want a large amount of space I shall ask you very frankly how much money you have got, and how many people back of it to cover it. I will be down there in Missouri, and you have to show me. If you come and ask for a large space you will have to have a lot of honey, and a lot of money, and a lot of good people. If you ask for a modest amount, and have a modest amount of money, and have a modest amount of backing, and can keep it in that shape during the Exposition, you will get it. We are trying to handle it in a business way, but in a fair way, so that you will be satisfied to have come there.

I have spoken to the point, or have tried to, because, having gone through a number of Expositions, having given between five and six years now to this work, and nothing else, in Expositions held in Omaha, in Buffalo, and now in St. Louis, a continuous service entering upon its sixth year, I appreciate it is the facts you want to know. I shall leave it to the papers and literature to tell you the artistic side of things, and the other facts than those which relate to your own work.

We are laying our plans upon an enormous scale. We hope to have space enough for supplying a reasonable amount to every exhibitor who wants to come there with a good exhibit which he proposes to put up in first-class shape, and can take first-class care of all the way through; we don't want any other kind; and if there is any way to help we want to get their advice. We want an exhibit properly classified; we want everything done as scientifically and carefully as would be required in any of the departments at Washington or any university; we want things so placed they will be able to be found, and when you find them, so labeled you will know what they are. If you will pardon me for having spoken frankly to that particular point, and if you will believe me, we wish to do everything that we possibly can that it is consistent and possible for us to do, then I shall be very glad indeed to have met you. And I am glad, anyway.

Dr. Miller—May I be allowed to ask Mr. Taylor a question? I learn from good authority that your father was a Sunday-school superintendent, and from the pleasant flow of language I suspect that his son may have had some little practice in speaking pieces before the Sunday-school. There are some Sunday-school superintendents amongst the bee-keepers, and I believe I speak for a good many of them when I say we are interested to know what will be the final decision as to the opening of the Exposition upon the Sabbath day. Will you tell us what is the present expectation?

Mr. Taylor—Under the congressional law, which granted to the Exposition the $5,000,000 of Government aid, the largest amount ever given to any Exposition, it is specifically provided that the Exposition shall not be opened on Sunday. I know of no possible way that the law should be evaded, if it was desired to evade it, or of any possible way in which it could be changed except through the office of the law itself, that is, through Congress. I have heard nothing from the officials of the Exposition except an expression of their intention to comply with the law. I am free to say for myself, I sincerely hope the Exposition will be closed on Sunday, not only from the moral side of it, but because all my life I have been able to get all the work I wanted on six days out of the week, and sometimes more, and I find for myself and my associates it is a great drag to have to trot around there on the seventh day. I don't like to do it, and I don't believe it pays from any point of view. That is my personal opinion and standing; but the legal question of it is such that I see no possible way, if the

Exposition desires doing so, which I don't think they do, that they could evade the law. The only possible way it could come about would be through a supplementary law passed through Congress.

Dr. Mason—I am glad to hear that expression. I had intended, as secretary, to notify Mr. Taylor of the action taken yesterday by which this whole matter was put in the hands of the Executive Committee. I did not have with me, at the time this matter was introduced, some things which I have, but I will introduce it now. It is this:

WHEREAS, There is to be held in the city of St. Louis, Mo., in 1904, an Exposition of the Arts and Sciences of the World, known as the Louisiana Purchase Exposition; and

WHEREAS, The said Exposition has the approval of the United States Government to the extent of an appropriation by Congress of $6,500,000 for the Nation's participation therein; and

WHEREAS, The city of St. Louis is expending in the enterprise more than $10,000,000, and the total appropriations by the various States of the American Union, and by foreign governments, now amount to over $20,000,0000; be it

Resolved, That the National Bee-Keepers' Association, in convention assembled at Denver, Colo., regards the Louisiana Purchase Exposition as an enterprise of national and international importance, which will be the highest possible expression of our advanced civilization, and the grandest and greatest Exposition in the history of the World's progress.

Resolved, That we cordially and heartily indorse the said Exposition, and pledge ourselves to give it earnest support, and that the National Bee-Keepers' Association desires to place itself on record as in favor of holding its annual convention in St. Louis in 1904, during the progress of the World's Fair.

Dr. Mason—I have been assured by Mr. Taylor that a place to meet in will be provided for us free, and we will have all the courtesies extended to us to which we are entitled. On consideration by you, I move the adoption of the resolution just presented.

R. L. Taylor—I second the motion.

The President put the motion, which, on a vote having been taken, was declared carried.

(Continued next week.)

Contributed Articles.

Anti-Foul-Brood Legislation in California.

BY PROF. A. J. COOK.

I HAVE an interesting letter from Hon. J. M. Hambaugh, who is bee-inspector of one of our most important California bee-counties, that of San Diego. It goes without saying that Mr. Hambaugh would be alive to anything that interests the bee-inspector and so would be ready for criticism if our law is imperfect. He finds numerous imperfections, which tend greatly to impair his work. The work is also increased. As these are matters of general interest, I will comment upon the subject, as per request of Mr. Hambaugh, in the American Bee Journal.

BOX HIVES.

One would hardly suppose that any bees would be kept in box-hives in this advanced stage of the bee-keeping world. Yet it is a fact that there are many colonies in Southern California housed in these out-of-date receptacles. It goes without saying, that in an apiary affected with foul brood, these hives are a serious menace. The Inspector cannot know that the foul brood is present, and so the hive must either be destroyed, bees and all, giving the doubt the benefit, or else the bee-keeper must be compelled to transfer the bees to a movable-comb hive. Mr. Hambaugh suggests an amendment which shall oblige the bee-keeper to transfer such bees, or else submit to having all destroyed by the inspector. It seems to me this would be no hardship. If a bee-keeper has foul brood in his apiary, he is most interested that it shall be thoroughly extirpated. This would surely require none but movable-comb hives. For his own good, then, as well as that of his neighboring bee-keepers, he should proceed at once to transfer all bees into movable-comb hives.

Our law is also defective in that bees may be sold from an apiary to other apiaries in the same or in other counties. Of course, this is a serious obstacle in the way of curtailing the disease. Mr. Hambaugh would make it a serious offense, subject to no mean fine, for any apiarist to sell bees that are diseased. In fact, no diseased colonies should ever be moved. In all such cases a certificate from the inspector should be made requisite to any such removal. Mr. Hambaugh thinks that in case an apiary has been treated for foul brood, no apiarist should be allowed to sell bees from such apiary until permitted to do so by a certificate from the inspector.

It is also thought desirable to give the inspector full power to act in case any bee-keeper offers resistance or obstructs said inspector in his duties. While the wise inspector will usually use tact and reason that will persuade the recalcitrant bee-keeper to submit to the destruction or the cure of the malady, as seems wisest, yet in case there is obstruction, the law should make it easy to require submission.

I wish also to call attention to the small pay that the inspector receives in California. This is disagreeable business, requires hard work, and takes the inspector away from home. It also often takes him from home just when his services are most needed in his own business. He cannot delegate this work, as he owes his appointment to the very fact of his own knowledge and ability. He must give it personal attention. In our State the law gives him only three dollars a day, as I understand it, and he must bear his own expenses. As he must of necessity keep a horse, the expense account will often be no small matter. California is surely as able as is Colorado to pay a reasonable price for such service. Colorado (see American Bee Journal, Sept. 25, Vol. 42, No. 39, page 615), allows four dollars per day and two dollars for each half day necessarily and actually employed, together with his actual and necessary expenses. It strikes me that this is none too much. Yet, if it is found that with the present law our supervisors are able to secure the service of suitable men, it is then a question whether we should pay any more.

ORGANIZATION.

Mr. Hambaugh asks how we can best secure desired action regarding the above suggestions. Here is a case where organization comes to the front and offers a great, strong, helping hand. Through our Farmers' Institutes in Southern California we have organized a large number of active Farmers' Clubs. These are wide-awake organizations and are fully alive to the importance of suitable legislation in all such matters. Those clubs all meet once a year in a delegate institute which we call the "Farmers' Clubs' Institute." The purpose of this meeting is to discuss all the great questions which concern the farmers. The clubs of each county are appointed a year beforehand to arrange for this meeting. It goes, then, without saying, that the program of this meeting will be one of unusual interest and importance. The next meeting will occur December 17 to 19, 1902, at Santa Ana. Our county of Los Angeles is given the subject of legislation. The different clubs of our county are working upon the framing of desirable laws, which, if approved by the institute as a whole, shall be passed on to the Legislature, which will meet in January. The recommendation of this Institute will go far toward securing the passage of the enactments. It would be a rash Legislature and a foolish governor who would think to antagonize so large a body of farmers regarding matters which were vital to their interests.

Our club in Claremont has in preparation a fertilizer law, which, owing to an incompetent governor, has failed at the last two sessions of the Legislature, though it was passed at both sessions. A bill is being prepared that will surely meet all the exigencies of the case. We have very little doubt but that it will be passed and signed by the governor at the next session of the Legislature. Our present governor failed of renomination largely because of his obstinacy in just such cases. We have great hopes that any such experience will never be repeated in our State.

I suggest to Mr. Hambaugh that he carefully prepare an amendment to our present law, or else, as in his judgment seems best, a substitute. It seems to me very unlike the present law of Colorado, referred to above. I suggest also that Mr. Hambaugh come to the meeting prepared, in a short, terse paper, to give the reasons for this action in such a forceful way that the Institute will be convinced and give the bill its full sanction. I have little doubt but that in this way the new amendment may be carried.

I also suggest that our State Association be called to meet on the 16th and 17th of the same month, either at Los Angeles or at Santa Ana, where the same matter may be presented by Mr. Hambaugh and be discussed by all the bee-keepers present, especially by the seven bee-inspectors,

that Mr. Hambaugh may get the benefit of their good judgment and experience, and that he may carry their sanction and approval with him as he presents the matter at the Institute.

We see, from the above, how important a matter it is, that all sections of our country become organized in just the way referred to. Most professions have a great vantage ground in such organizations. Thus the lawyers, doctors, railroad magnates, etc., can bring such force to bear upon any proposition that they are almost certain to gain their desires. I can but believe that the two most important things now before not only our farmers, but also before all working men, are organization and co-operation. Southern California is leading in both these directions. May all other parts of our country soon wheel into line, so that all our people who labor with their hands may be able to hold their own with those of all other classes of laborers.

Los Angeles Co., Calif.

Shading and Ventilating Bee-Hives.

Read at the Minnesota Bee-Keepers' Convention.

BY W. R. ANSELL.

IT is with great diffidence that I advance my ideas on shade and ventilation before this experienced gathering. My remarks will be few, will not be dogmatic, but may contain some novel suggestions on the value or inutility, of which I am perfectly open to conviction.

The title of my paper may seem ambitious, so let me at once assign its limits: "Shading the hive from the sun, and ventilating it in summer and cellar."

When on the subject of shade, I shall confine myself to two propositions: Do we want our bees shaded? and what is the best form of shade?

We do not want them shaded in the early spring nor in the late fall; we do not want them shaded during the early hours of the day, nor at any time when the weather is not very warm. Therefore the natural shade derived from trees or shrubs is not the best form of shade.

I fancy I hear some of my friends, who know the location of my apiary, say, "Sour grapes!" and I know how deliciously cool and comfortable their yards are to work in on a hot day. I do not underrate the value of personal comfort and artistic surroundings in the bee-yard, but I think better results can be obtained by placing our bees on an open plain than in the most beautiful Garden of Eden, if there are always to be apple-trees there.

I remember one apiary down in a dismally-shaded dell, where my friend considered he had an ideal location, because his swarms (he never clipped his queens) always hung about the trees, until he had leisure to hive them. His bees were late risers, judging by results.

We want our hives to be as warm during a honey-flow as is consistent without distressing the bees, so that the honey may ripen quickly.

For this reason I am of the opinion that a removable shade-board is the best device for us. Of the one I use myself, I present to you a few illustrations, showing its construction and manner of use, and I venture to recommend it to those who desire a cheap and effective article. It is, as you see, made of shingles nailed to a skeleton, gabled frame of lath. There is no waste in the use of either material, and 100 shade-boards will cost you only $4.00, including a boy's time nailing them up. They are heavy enough to stay on the hive during an ordinary wind, and light enough not to do any damage if blown off in a gale.

They should be tilted toward the sun two or three times a day, and can be placed on the ground if a storm approaches. I can change the position of 100 in 5 or 6 minutes.

Ventilation of the hive during the honey-flow and during very hot weather must, I think, conduce to the comfort of the bees and ripening of the honey. For this purpose I have found nothing better than the much-practiced plan of placing a small piece of section at each corner under the cover. Perhaps a little thinner might be better, if the bees would not seal up the opening with propolis.

In the case of a newly-hived swarm, I have found it advisable to give even more ventilation than this for the first day; but for the second and third days to close the top down tight. Afterwards the hive may be ventilated as usual, if the bees have started work in the super.

My concluding suggestion will, I think, be a novel one. Considerable loss may sometimes be experienced, during the winter, through condensation on the under sides of the covers, and consequent dripping on the cluster. Several devices are in vogue to obviate this, among others that of slightly raising the cover so as to allow the moisture to escape before condensation. This plan of ventilation may be all right in the case of a very strong colony, or of one which has a superabundance of stores. But I cannot help thinking the cover should be kept closed in most cases, so as to avoid waste of heat.

Last winter I experimented on 27 colonies in a cellar, by piling them against the wall at an angle of 45 degrees; my idea being that all condensation must of necessity fall down one of the inclined planes, and thus find an exit from the hive, without falling on the combs or cluster, and without the necessity of any top ventilation. Dead bees also fall, etc. I may mention that a couple of 2-inch slats of wood traverse the tops of each tier of hives; the hives above resting on these slats. Of course, the bottom-boards are removed.

Hennepin Co., Minn.

Rearing Long-Lived Queens and Bees.

BY HENRY ALLEY.

WHEN reading Dr. Gallup's article, on page 584, I couldn't help thinking he must have had more trouble in getting good queens than any other man in the bee-keeping line. Now, had everybody who purchased queens had the same trouble that the Doctor has had, where would the queen-breeders of the present day be? Does Dr. Gallup have an idea that one poor queen represents all the queens any dealer sends out? I wonder if Dr. Gallup always introduces his queens so that their fertility is not destroyed at the start? Hundreds of queens are ruined in the very act of introduction, and I really believe Dr. Gallup has spoiled many a good queen by his method of introducing. Many bee-keepers do this thing, and then put up a kick against the queen-dealer. Does any one suppose that where a queen-dealer presents Dr. Gallup with a queen that an inferior queen is sent him? Dr. Gallup says in his article (page 584) that he received two queens from some one in the month of August, and in the fall both colonies that the queens were introduced to dwindled down very low in numbers. Now, I believe those two queens were just as good as Dr. Gallup could rear, or they never would have been sent to him. The two queens which I sent Dr. Gallup were perfect in every way, yet he had the same bad luck with them as with all others. I believe the trouble is with the Doctor, and not with the queens.

I am sorry I did not get "on to" this queen-business earlier in the season. I tell you what I'll do, Doctor: You rear half a dozen queens as good as you know how, in 1903, and mail them direct to the A. I. Root Co. I'll do the same. If my queens don't turn out better than yours, I'll guarantee to go out of the bee-business.

Dr. Gallup says on page 585; "Mr. Doolittle and Mr. Alley comply with all the necessary conditions but one—their queens do fairly well the first year, and fail the second." Speaking for myself, I deny the statement, and if this were my paper I would deny it in as strong terms as the charge is made. Not one of the queens in 50 that I send out die the second year. One customer wrote me he had one of my queens that lived *six* years. I now have two queens in my yard that have gone through two years, and they are the strongest and heaviest colonies in the State of Massachusetts.

Dr. Gallup has made some most marvelous statements concerning queen-dealers. So far as I am concerned, I deny them all. The idea of judging a man's goods by one small sample! Just accept the challenge above, and that will settle the matter, whether the queens I send out die inside of one year or not. Dr. Gallup has made such terribly wrong statements that I begin to question his judgment on queen-bees. I really believe he destroys the vitality of the queens sent him when they are introduced.

The nonsensical talk about the "umbilical cord," "missing link," etc., is out of place. The meanest, half-starved, half-nourished queens I ever saw were the ones that appeared to be fixed up with what some people call the "umbilical cord."

Further on Dr. Gallup says, "Ridicule is not argument." Doctor, let me remind you that some of the statements you make are not argument.

Good queens, long-lived queens, and prolific queens, are reared under proper conditions. What are those conditions? The entire thing lies with the nurse-bees. No arrangement of cell-cups or eggs has the least to do with the

quality of the queens reared. When bees rear a queen, or queens, in colonies having a fertile, or, in fact, any queen, the nurse-bees will fill the base of the cell-cups with jelly, but not royal jelly. It is the same sort of food as is used in feeding worker-larvæ, consequently the queens so reared are of a very poor quality; they lack vitality and vigor, and are short-lived, unprolific, and worthless. In all my queen-rearing operations I have recognized all these important facts, and have prepared the royal food before eggs are given them.

Those queens reared in colonies having queens have the umbilical-cord attached as much as the naturally-reared queens, and so they have as large a lump of royal jelly at the bottom of the cell, as queens reared by any method. But such jelly is of an inferior quality; it was made up to nourish worker-bees, not queen-bees.

I never give bees eggs to rear a queen until they have been queenless several hours, and given time to prepare the royal food—a thing they are sure to do, and when eggs are given them this royal food can be found in the cell-cup within an hour after the eggs are given them. Won't some one who has the means at hand, analyze the two foods and report through the American Bee Journal?

I know of but one way to rear queens, outside of natural swarming, that I practice, and Dr. Gallup must practice it if he rears queens.

One other thing that Dr. Gallup has not mentioned as one of the causes of short-lived queens: The queen-dealer is too apt to allow a colony to rear a large number of queen-cells. If 100 cell-cups are given a colony of bees, they surely would build them out, and nurse up some sort of queen-bee-larvæ. But not one queen in the lot would be of the least value. Now, in Nature's way, how many queen-cells are usually found in a colony that has cast a swarm? Generally but eight queen-cells, sometimes a few more, but often a less number. Rear less queens per colony, and they will prove much better.

Dr. Gallup says he reared 36 queens that were all good, first-class queens. I have no doubt that is so. But hundreds of other bee-keepers have reared queens equally as good and by a similar, and by different methods. I have reared 50,000 queens equally as good; couldn't help rearing good queens. All I had to do was to do just as Dr. Gallup did—let Nature have her own way. But Dr. Gallup didn't send any of those queens by mail to Bob, Dick and Harry, all over the United States, and let them introduce them. Had he done so, no doubt he would have heard as much growling about them as he has done about other people's queens. Why don't you try it, Doctor, and see how it works? You would soon have troubles of your own.

I have come to the conclusion that we all rear queens by the same method as does Dr. Gallup. There is no other way to rear good queens. All queens reared in queenless colonies are reared by Nature's best plan. The troubles with the queens is not in the rearing, but in handling after they are reared. Essex Co., Mass.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON.

Smoker-Fuel Again.

And, now, Mr. Hasty is objecting to my smoker-fuel. Well, you know there is nothing in the world as perverse as a woman (unless it is a man), and I am going to stay in the wilderness a while longer. He says:

"What in the world is the use of those of us that live in the country makeshifting along with anything else than the standard good fuel—rotten wood?"

Now, I say, "What in the world is the use of those of us that live in the country makeshifting along with" rotten wood when we have a good chip-pile right handy, and all we have to do is to pick up the chips and drop them in our smoker—no breaking or cutting necessary—we can pick out the right size to put in the smoker without any trouble at all? What more can we want? They last lots longer than rotten wood, and make a better smoke.

T. F. Bingham, of smoker fame, says that *sound, hard wood* is the best smoker-fuel, and he is good authority.

Rot in wood is slow combustion, and just so far as it has rotted it is so much burned out, and will make that much less smoke. What we want is the best.

In getting chips for smoker-fuel I always pick out sound, hard wood chips. Rotton wood is all right to start with if you can't do better, but I can do better.

While you are tramping around hunting up your rotten wood to serve as kindling for your summer's work, Mr. Hasty, I will earn my 10 or 20 cents washing dishes, with which to buy my saltpeter, which will serve to light mine more than twice as long, and do a good deal better work, too. No, sir! I am not going to throw my saltpeter to the dogs yet.

Now, honestly, Mr. Hasty, have you ever tried saltpeter to light your smoker with? If not, just try it. Who knows but you may be living in the wilderness, too, some day?

You can use wood soaked in saltpeter instead of cloth if you prefer. One is just as good as the other.

Cleaning Out Unfinished Sections.

Have you had the bees clean out all unfinished sections that have the least bit of honey in them, so that you can use them again next year? If not, better have them do it right away.

Let the bees rob them, although it is a little late for it. Then you will be sure they are thoroughly cleaned out.

Stack the supers up in a pile and leave an opening large enough for only one or two bees to pass at a time, then they will not tear or mar the combs. If you have enough of them to keep all the bees busy, you can spread them out as you please, and they will not tear the combs.

After they are cleaned out, pile up in the honey-room, and cover up mouse-tight. It is nice to inspect all supers as they are put away, to see if they are all right—no foundation down, or anything of the kind, then they are all ready for use next year.

Bees Cleaning Off Leaky Honey.

Did you ever have any leaking, dauby sections, some with honey streaked all over the comb, others all watery and sticky, making you feel as if you wanted to pitch the whole business out of your sight?

Well, just give them to the bees to clean up, and you will never recognize those sections after the bees have had them from 20 minutes to half an hour; but don't leave them on too long, or they may empty them. Just leave them long enough for them to clean up nicely.

I have tried it a number of times, and every time they have cleaned them up beautifully. Oh! it was such a relief to get back nice, dry sections in place of the sticky ones.

The Wax-Worm and Its Work.

There has been more or less said in the Bee Journal concerning the wax-worm and its destructive work. Please give a brief description of its manner of working; how it is gotten rid of when it makes its appearance; and a description of the worm itself. I think I have been troubled with it a little lately. ILLINOIS.

ANSWER.—If there are any worms at work on your combs you may be sure they are wax-worms.

There are two species, one much smaller than the other. It is the larger one that does the most damage. If your colonies are strong the bees will take care of the worms for you, especially if the bees are Italians.

You will occasionally see little burrows under the capping of the brood. Pick a hole at one end of the burrow, then pick a hole at the other end, and follow along until you find the worm, and kill it.

But the greatest trouble with wax-worms is in brood-combs that are not in care of the bees. In the spring, as soon as the weather begins to be pretty warm, you may look out for them.

The eggs are laid by the bee-moth in the combs, and hatch out into tiny grubs or worms, and when full-grown are nearly an inch long, are not very much smaller around than a small quill, and are of a grayish, dirty-white color. It is while small and while growing that it puts in its work of destruction.

Examine your combs from time to time, and whenever you detect any cells filled with webs, or a series of little tunnels running across the combs from cell to cell, you may

be sure the worms are at work, and they must receive immediate attention, as their work is very rapid.

There are several different methods of getting rid of them. One of the best ways is to give the wormy combs to the bees to take care of. Or you may fumigate them with sulphur, or bisulphide of carbon. Or you may fill a small oil-can with gasoline, and wherever you suspect the presence of a worm fill the cell with gasoline. This is very effectual and an easy way.

If you use gasoline or bisulphide of carbon be careful not to use near a fire, as they are very inflammable.

Her Bees Held Their Own.

Bees have not done anything this season. Mine have held their own—only one super per colony. They have a full hive of honey and plenty of bees. I expect they will winter all right. Some of my neighbors say their bees have not even enough honey to carry them through the winter.

MRS. E. BURDICK.

Bernalillo Co., N. Mex., Oct. 10.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Late Drones.

Last June I received a queen, and the colony in which I placed her did very well this season, but did not swarm. A short time ago I noticed there were still drones in the hive; thinking that perhaps they had lost their queen, I examined them and found her there all right. Why are those drones kept at this time of year? I have never seen anything of the kind before. MICHIGAN.

ANSWER.—I saw drones the last day of October this year at the entrance of one of my colonies concerning whose queen I have no anxiety. I think it is more common than usual this year to find late drones. The season has been such that bees have done some gathering every fine day, and so the bees have not felt keenly the lack of pasturage, and the lack of pasturage seems to be the principal thing that suggests the extermination of the drones.

Preparing Bees for Shipment.

1. What is the proper way to prepare bees to ship? and what is the cost per colony, say from here to California?

2. Would it be advisable to take 20 colonies from Iowa to California, as they will hardly sell for what they are worth here.

3. How would be the proper way to manage the entrance-guards during swarming season to prevent swarming? IOWA.

ANSWERS.—1. Minutiæ of preparation varies according to the hive. Generally it is all right to fasten the cover and floor-board to the body of the hive by means of one or two cleats at each of the four corners of the hive, one end of the cleat being fastened to the floor-board and the other to the cover, and the middle of the cleat fastened to the hive. Abundant ventilation must be supplied by means of wire-cloth, one way being to have in place of the cover a rim an inch or two deep entirely covered over the top with wire-cloth. In this case of course the cover is omitted from its usual place. I do not know what it will cost to transport a colony of bees from Iowa to California, but you can learn from your freight or express agent.

2. I don't know, but I very much doubt the advisability. I'm not sure about your railroads, but I doubt whether you can send bees by freight without paying for a car-load, and the express charges are fearful.

3. They are simply to be left at the entrance, to be removed when a queen has been trapped or when drones are in them.

Buys this sweep grinder. 9 styles sweep mills either single or triple geared, with or without ball bearings, $14.50 and up. 28 styles power grinders. Horse Powers all kinds. 2 h., $19.25. 4 h., $27.40.

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For this set blacksmith tools 1 forge, 18 in. hearth, 6 in fan, weight 65 lbs; vice, anvil, Hardy drill and three drill bits, 2 hammers, 1 set of stocks and dies, 6 taps, 3 dies, 1 pr. 14 in. pinchers, 1 pr 20 in tongs, 1 farrier's knife, 1 chisel. Do your own repairing.

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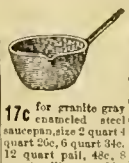
17c for granite gray enameled steel saucepan, size 2 quart 4 quart 26c, 6 quart 34c. 12 quart pail, 48c, 8 quart milk pan, 15c. 1 quart dipper, 6c, 9 inch pie plate, 8c, 9 inch cake pan, 4c.

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GEORGE W. YORK & COMPANY, Chicago, Ill.

What Yon Yonson Thinks

Yon Yonson com from Sveden,
He havven lots to du,
He don't vas git so homesick,
He play das organ tu.

He vorken on das section,
He don't vas lnk das boss,
So, Pat O'Rice, he don't speak twice,
He turn das Svede man off.

So he vork for Ole peterson,
He milk hiss cows at nite,
He vork all day, and git big pay,
An don't vas bean git tite.

Vell, ay bean yust goin into das big lodg and vat bean called National Bee-Keepers' Assocecation. Ay bean tank me for long time to join me selv in to das big yunyuns, but ay don't know it bean for any ting but dem big bee-keeper mans, but ven ay go to town von day ma som hunny, an ay ask das store mans vat he pay for nice hunny, an he look at him and he say, "Vell, das vas nice hunny, an ay kin pay you atcen cent a pound. Mine goodeness, ay yust purd neer to fall over! "Vat for you kin pay so much?" ay say. "Vell," he say, "dom bee-keeper mans vat be long to das yunyun dom git big law past so ve don't kin sell any more of das slop hunnys vat been in glas tumblers, vot got little beeas come in it, an ven dom peoples begin to taste das reglar beeas hunny, den dome fine out dat it don't bean any hunny toll in dom glasses. An den dom reddy to pay big price for das regler beeas hunnys; before dom tot every ting vat say hunny vas hunny."

My ying! ven ay begin to tank bout ay never giv dom fellers five cent an dom do me so much good to git big price for hunny. Mine goodeness, ay youst feel so small ay vas purdnear to fall tru a not-hole vat bean in das floor. For long time a go ay bean yoin me selv into Voodman, and dom ride me on das gote for bout two hours, but das yunyun it bean differnt ting. Ay don't baf to ride das gote, an ay bean git benfit for long time ago. Ay sen Mr. New York von dollar, an ay tell him to yoin me into das big yunyuns vat do so much for Svede mans. Mr Huchinson he bean das president, an ay tank he bean glad to yoin dom peoples in das yunyuns. If you tak notis he bean vare viskers on da side, yust lak Mr. New York ven dom bean yoin dom peoples into das yunyuns. Dom make plenty big smile, an hy an by dom goan to come in so fast dom haf to vare side-boards to keep das smiles from running over

Now, ay tank all you bee-keepers vat don't belong to das yunyuns, you better git on bord das ban' vagen, for it goan to start up purty fast, an if you don't git into it purty soon mebby you goan to git left. Yon Yonson he don't goan to hang on be hine eder, you bet. He goan to hole da whip, an ven dom come to big hill he goan to git off an push, an if all dom bee-keepers vat read das bee-paper vill yust push for about von dollar, on da start den, ay tank it soon bean goan hooping.

Now, dom yunyuns bean all reddy don gud for us, an ve mosta follow das golden rule. Das slop hunny mans dom got differnt rule. Dom say if dom bee-keepers don't du us ve goan to du you. Now, ve bean du dom fellers in Illenois, but in odder States dom bean du dom bee-keepers plenty bad. Ve musta have plenty spunk, and ve musta vork ma das law mans, and get some better laws, an das goan to tak monny. Course dom slop hunny mans dom goan to vork aganst us, but if ve all push plenty hard some tings goan to com luse, an ve will tak das slop hunny mans door an post an every ting an cary it up on da hill, yust lak Samson du ma das philistines, and den ve goan to play keep hous ma das fellers. An Yon Yonson he goan to spank das carpets an ven we have sweep das floor, den Dr. miller he goan to bring in big arm full of straw for carpets, an ven ve bean

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

Some Renewal Subscription Offers!

As the time is drawing near when a large majority of the readers of the American Bee Journal renew their subscriptions for another year, we thought it would be well to put before them in one place a few of our clubbing offers that they might like to take advantage of. We will number them, so that if you will order by number no mistake will likely be made at this end of the line. Here they are:

No. 1—	The Bee Journal a year and Prof. Cook's "Bee-Keeper's Guide," (book alone, $1.20).....	Both for $1.75
No. 2—	The Bee Journal a year and Dadant's "Langstroth on the Honey-Bee," (book alone, $1.25).....	" 1.75
No. 3—	The Bee Journal a year and Doolittle's "Scientific Queen-Rearing," (cloth bound) (book alone, $1.00)....	" 1.60
No. 4—	The Bee Journal a year and Doolittle's "Scientific Queen-Rearing," (leatherette bound) (book alone, 60c)	" 1.40
No. 5—	The Bee Journal a year and an Untested Italian Queen (to be mailed in May, 1903) (Queen alone, 75c).	" 1.50
No. 6—	The Bee Journal a year and a "Novelty Pocket-Knife" with your name and address on it (knife alone, $1.25)	" 1.90
No. 7—	The Bee Journal a year and a "Wood Binder," for holding a year's numbers (binder alone, 20c).....	" 1.00
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No. 9—	The Bee Journal a year and a Monette "Queen-Clipping Device," (device alone, 25c)	" 1.10
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Of course all the above will be sent postpaid. We should be pleased to have all who can do so send in their orders at once, so as to cause less delay than there would be when so many renew their subscriptions at nearly the same time—from Dec. 15 to Jan. 15. We will try to do our part in filling your orders promptly.

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all dun an' dom vimens hav' blak' das stove an set das table, den ve goan to sit down an have big feast, an ay tank ve goan to prove das pudden fo shure.

If das hogs don't git out, or some ting go rong, ay bean come over nex' veek.

YON YONSON.

GENERAL ITEMS

Bees Did Fairly Well.

My bees have done fairly well this season. I got 2000 pounds of comb honey from 22 colonies, spring count, and increased to 38. They are in good shape for winter. This is getting to be a very fair place for bees, and they do as well here as anywhere.

F. H. MILLER.

Barton Co., Kans., Oct. 31.

He Appreciates this Journal.

The American Bee Journal is just the paper for any one keeping bees. I fail to see how any person can do without it and make a success keeping bees. I get my experience from it by putting what I read to practical use.

W. J. BROWN.

Skagit Co., Wash., Oct. 27.

Honey Crop Almost a Failure.

The honey crop was rather a failure in this locality. A bee-keeper in this neighborhood, having 450 colonies, had nothing to extract, although the bees have the hives heavy now, which insures at least good wintering. There is at present a good flow of honey from various fall flowers. In some places the ground is covered for acres with yellow flowers; it seems they belong to the sunflower family.

I extracted 360 pounds of honey from 8 colonies, and increased to 18; but I have to feed some of them. OTTO SUELSENFUSS.

Bexar Co., Tex., Oct. 28.

Only a Fair Yield.

Although the weather the past summer was too chilly and wet I secured a little over 400 sections of honey from 11 colonies, and they were all sold to private families. They all came after the honey. J. W. LEIB.

Franklin Co., Ohio, Nov. 4.

Building Comb to Separators.

I know from actual experience with hundreds of colonies, that the starter hasn't anything to do with building comb to the separator whatever, unless it breaks loose.

I have been wondering for some years past why so many bee-keepers advocate full sheets of comb foundation in sections, when, in this country, half and quarter sheets produce just as good results. I think that the advocating of full sheets of comb foundation is either advertising for the foundation, or else an ignorant statement of those making it. I think the same is true with fence separators. I have produced thousands and thousands of sections of comb honey, with plain separators, with sections partly filled with comb foundation, and very seldom have any attached to the separator. They have been as white as snow, and as straight as a board, so much so that I have taken premiums five or six times in succession, at the Northern State Fair, over any sections; the fence separators are no exception.

When I see a statement made that full sheets of comb foundation will do away with brace-comb, it makes me feel badly, not for those who make the statement, but for the poor beginners, who, like myself, seek a remedy for their troubles, and will invest heavily in the things recommended through the bee-papers, only to be disappointed.

I am not able, however, to give a remedy to prevent the bees from attaching the combs to

the separators, but full sheets of comb foundation is not the remedy. The starter I have been using for the last eight years is a V-shaped piece, reaching nearly the entire length of the section at the top, and extending to within an inch of the bottom. It surprises me to see it advocated by old bee-keepers to put a bottom starter in the section in order to get the combs fastened. I do not use such a starter at all, and out of 100,000 sections of comb honey, I do not believe 100 sections were not fastened to the bottom solid.

A. C. F. BARTZ.

Chippewa Co., Wis., Nov. 3.

Wet Season—Carniolan Bees.

Strange things have occurred here in 1902. As I reported some time ago, we had a fine flow last spring, but we have had one of the dryest, hottest summers ever known here. It seems strange to read what Northern bee-keepers say about cold, wet weather when we are burning and drying up.

The drouth lasted from May 31 to Aug. 30, when the rain came. Nearly everything was dried up, and most of the bees verging on starvation. I am glad to say, after the rain came, everything started anew, and the bees went to work rearing young brood like they do in the spring.

Some of the bees have four or five gallons of honey to the colony, and are still working. But we will soon have frost.

The most of my colonies have a fine lot of young bees to go through the winter.

I have read with interest all Dr. Gallup has said about rearing queens. I believe the Doctor is nearer right than some of our bee-men are willing to admit. I have tried to rear queens in weak colonies several times this year, but I failed nearly every time to get a good one. I do not see how it is that so many report failure with queens they buy; I have bought several, and they have all done very well except one. I must say a good word for the Carniolans; during the dry weather they kept rearing bees. When the honey-flow came they had plenty of bees to gather the honey, but the blacks were too weak to do much. If you want to build your bees up fast, just get one or two Carniolans and rear all the queens you want. J. S. PATTON.

Hale Co., Ala., Oct. 31.

Asters.

I enclose two flowers on which the bees work so much—one with white flowers and the other with yellow and blue flowers. What are they? F. J. GUNZEL.

Poinsett Co., Ark.

[Both are Asters: the one with white flowers is Aster-Belgii, commonly called whiteweed; the other is Aster laevis. These are valuable honey-plants, and are among the latest flowers to attract bees.—C. L. WALTON.]

Results of a Wet Season.

I never saw as much wet weather as we have had this year; it has rained as often as every other day since last April, and has been quite cool.

I started in this spring with 11 colonies of bees, and increased to 22. I have taken off 1057 pounds of nice honey.

We had about 4 weeks of nice white clover bloom; the bees worked well on it, notwithstanding the wet weather. They are well provided for the winter with nice honey, and are in fine shape.

I am selling my No. 1 honey by the case for 14½ cents per pound, and the light weight for 2 sections for 25 cents, and my extracted at 12 cents a pound, with good sales. I have bought nearly a ton of honey of my brother bee-keepers, so I have honey to supply my customers.

Bees have done very well here in the Lake Champlain valley. I have reports from others only about two miles from here, and they say their bees are starving.

I have had orders for honey from Pennsylvania. I find that fair dealing and honest weight, and putting the honey up in cartons, with name and address on them, bring me

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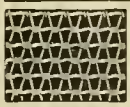

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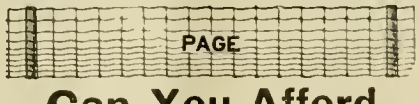

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I have taken the American Bee Journal for several years, and do not see how I could get along without it. You can count on my renewal, for I find it pays to keep informed, and the Bee Journal does that.

G. H. ADKINS.

Essex Co., N. Y., Oct. 30.

Wintering Under Snow.

Last winter my bee-hives were covered with snow for a long time; it was two feet above the hives, and the bees came out healthy and strong. After my bees are prepared for winter they receive no more attention until spring. D. M. KETCHAM.

Wayne Co., N. Y., Oct. 22.

When Bees Build Queen-Cells Best.

On page 682, I see Mr. Hasty says I have taken a film or hide off his eyes. Oh, now, Mr. Hasty, don't be so hasty, for we have all the hides down here we want; better keep yours to distribute where they are needed more.

I am still making the statement credited to me at the convention, and, what is more, I thoroughly proved it the last year or so. I couldn't afford to be caught making an unorthodox statement. Yes, Mr. Hasty, it is true, as I have found in my experience, that a colony is in the best shape to build cells in from one to four hours (at most) after being made queenless and broodless. Just as soon as they begin to show that peculiar restlessness indicating their queenlessness, we are ready to give them the batch or batches of cells.

In transferring I use little or no royal jelly, and transfer very young larvæ. They are then given in batches to the colonies as fast as they show they are queenless, and are at once received and well fed. True, the bees have not had time to secrete royal jelly, but has it not been proved that both workers and queens are fed on identically the same food for the first two or three days of their life? Therefore the bees will have ample time to secrete the more concentrated food by the time the larvæ are old enough to take the richer food.

By giving the cells to the colonies early I get a much larger percent of accepted cells; and, what is more, a much better lot of cells. The quicker you can give bees the prepared cells after they show queenlessness the better it is all around. There are several hours saved, a better grade of queens, and no absconding of the bees. Sometimes, if bees are left queenless and broodless over night, they will abscond early the next morning, or unite with some other colony. I have found that blacks are worse at absconding than the pure Italians or their crosses. No, sir, Mr. Hasty, this is not a case of "sometimes," it is a case of "all times," that the bees give the best results if bees are given the prepared cups immediately after they show they realize their queenlessness.

Now, if any of the other so-called professionals want to have their say, or you want to remove some more "hide," pitch in.

HOMER H. HYDE.

Wilson Co., Texas, Oct. 29.

FOR THANKSGIVING DAY

the Nickel Plate Road will sell tickets within distances of 150 miles, Nov. 26 and 27, at rate of a fare and a third for the round-trip. Tickets good returning until Nov. 28, inclusive. This road has three express trains daily to Ft. Wayne, Cleveland, Erie, Buffalo, New York and Boston, with vestibuled sleeping-cars. Also excellent dining-car service, meals being served on Individual Club Plan, ranging in price from 35 cents to $1.00; also a la carte. For reservation in sleeping-cars or other information, address John Y. Calahan, General Agent, 113 Adams St., room 298, Chicago. City ticket office, 111 Adams St. 'Phone Central 2057.

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Bisulphide of Carbon—A Caution.

Some writers have told how they have had fire quite near this substance without its igniting. They'll repeat that thing just once too often some bright day when a draft of air brings the fumes toward the fire. It does not stop to burn—it goes off with a bang.—STENOG, in Gleanings in Bee-Culture.

Honey-Glands.

These are organs found in many flowers, and their office is to secrete the sweet saccharine juice and generate it in the nectareous sacs, where it is stored up until it is rifled by the bees on their foraging excursions. They differ in number in various kinds of flowers, from one to five or more, generally according to the arrangement of the flower-petals. Thus, in the Ranunculus family, with their five flower-leaves, there are five nectaries, corresponding with the five petals. In regular flowers, however, the base is different, and frequently but one exists. It is placed in different positions on different flowers, but always situated just where the bee can most easily approach and sip from it. If these glands differ in number and position, their shape and size are even more diverse. The raspberry flower has a regular circular honey-trough, and the bee sips all round it, taking some time to exhaust the supply. That bountiful bee-flower, the lime, has a boat-shaped structure, which, in certain seasons, is ever full to overflowing, and, perhaps, on no other plant does the insect load up so quickly, and with so little trouble and exertion. Hellebores, and many others, have little tubular honey-pots yielding their stores willingly. The buttercups have five small, circular glands, one on each petal. Though the flower is generally the seat of these receptacles for the nectareous secretion, other parts may be found at times to yield a flow, as in the case of beans and vetches, which secrete it by their stipules.—D. M. M., in the British Bee Journal.

Alfalfa Yielding Honey in the South.

By the way, speaking about alfalfa, I planted about one-fourth acre year before last for the bees. Last year it grew nicely and bloomed well, but the bees paid no attention to it. I decided to let it remain a year longer to test it thoroughly. This spring the bees worked on it well—so much so that the man who cut it (it was cut while in bloom), along toward the last, threatened to give up the job, as he said it was hard to tell which were in possession—he or the bees. So it is safe to say alfalfa has produced honey as far east as North Carolina.—"TAR HEEL," in Gleanings in Bee- Culture.

Worker-Comb Without Foundation.

G. M. Doolittle says in Gleanings in Bee-Culture that his favorite plan is to have combs built in a weak colony or nucleus.

He says: "If such a colony is deprived of all of its combs save one of honey and one of brood, and a frame having a starter in it is inserted between the two combs left in the hive, the bees will, ninety-nine times in a hundred, fill that frame with worker-comb, and said comb will be as perfect as one built from foundation under the most favorable circumstances. Taking advantage of this fact, I take frames of brood from the weaker colonies I have at the beginning of the honey-flow, those too weak to work in sections to advantage, and give this brood to the weaker of the stronger colonies, and set the weak colonies to building comb, as I have explained. You will note here that I really make a gain in this way as to surplus honey, for this brood, where placed, gives better results in section honey than it would have done had it been

left where it was with the weak colony, as it almost immediately puts the bees of the colony where given (into the sections) at work, while, had the brood remained in its own hive, these colonies would have been somewhat slow in starting in the sections."

CONVENTION NOTICE.

Chicago - Northwestern. — The executive committee of the Chicago-Northwestern Bee-Keepers' Association have planned to hold the best convention ever convened in Chicago. The date is Dec. 3d and 4th, Wednesday and Thursday. Five eminent bee-keepers have been invited, and are expected to attend. More definite announcement later. Watch for it. Reduced rates on account of the fat stock show, which is held Nov. 29th to Dec. 6th.

HERMAN F. MOORE, Sec.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

A B C of Bee-Culture, by A. I. Root.—A cyclopedia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 60 cents.

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Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov. 7.—Prices remain steady, but the demand is small. We are not selling the quantity that we have done ordinarily at this season of the year. The advance in price has checked the trade, in addition to which retailers have got the impression that honey is going to be very scarce, and they are not pushing its sale. Fancy white comb brings 15@16c, with travel-stained from one to two cents per pound less; amber honey brings 12@13c, according to style and kind of package. There is very little call for the dark amber and buckwheat grades. Extracted white sells at 7@8c; dark and ambers, 6@7c; Southern is slow at about 5½c. Beeswax sells upon arrival at 30c per pound.
R. A. BURNETT & CO.

ALBANY, N.Y., Oct. 24.—The receipts of honey do not increase any, and there is a good, stiff demand at good prices. Ruling prices are 15c for white, and some extra fancy, 16c; buckwheat and dark, 13½@14c. Extracted, dark, 6½c; mixed, 6½@7c; white, 7@7½c. Beeswax, 30c.
H. R. WRIGHT.

BOSTON, Oct. 20.—Our honey market remains firm, with good demand and fair stocks on hand. Honey is not coming forward as fast as usual, and the tendency of prices is steady. We quote our market as follows: Fancy white 1-pound sections in cartons, 16c; No. 1, 15c; No. 2, very light supply, 14c; glass-front sections generally one cent less than this. Extracted, light amber, 8c; amber, 7½c.
BLAKE, SCOTT & LEE.

KANSAS CITY, Oct. 20.—The receipts of comb and extracted honey are light, and demand steady at quotations: Fancy white comb, 14½@15cc; No. 1 white, 14@14½c; No. 2 white and amber, 13@13½c. White extracted, 7@7½c; amber, 6@6½c. Beeswax, 24@26c.
C. C. CLEMONS & CO.

CINCINNATI, Oct. 4.—The demand for extracted honey is good at the following prices: Southern and amber sells at 5½@6½c; better grades, 7@8c. Comb honey is scarce; fancy and No. 1 sells on arrival at 16@17c. Beeswax weak at 28c.
THE FRED W. MUTH CO.

NEW YORK, Oct. 10.—We are having a good demand for comb honey and receipts are quite plentiful. We quote fancy white at 15c, and some exceptionally fine lots will bring from 15½@16c; No. 1, white, 13@14c; amber, 12c.

Buckwheat is late arriving, and none has been on the market as yet to cut any figure. We expect large receipts next week, and it will sell at from 10@12c, according to quality and style of package.

Extracted in fairly good demand at 7½c for white, 6½c for light amber, and 5½@6c for amber. Southern in barrels at from 55@65c per gallon. Beeswax nominal at 28c.
HILDRETH & SEGELKEN.

CINCINNATI, Oct. 27.—The demand for comb honey is good and prices are a little better, as the supply does not meet the wants. Extra water-white fancy is selling as high as 16@17c; other grades less, according to quality. Extracted is very active and prices are a little better; amber, 5¼@5½c; alfalfa, 6½@7c; white clover, 7½c. Beeswax, 28c. C. H. W. WEBER.

SAN FRANCISCO, Oct. 15.—White comb honey, 12@12½c; amber, 8@10c; dark, 7@7½c. Extracted, white, 5½@6c; light amber, 5¼@5½c; amber, 5@5¼c. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

There are no heavy offerings of any description, either at this center or at producing points. Comb honey is in better spot supply, however, than extracted. Stocks of latter have been greatly reduced by recent shipments outward. Current values are being well maintained.

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John F. Campbell, 53 River St., Chicago, Ill.
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., NOV. 20, 1902.

FORTY-SECOND YEAR
No. 47.

WEEKLY

HOME APIARY OF G. G. FALL, OF STRAFFORD CO., N. H.
(See page 740.)

THE AMERICAN BEE JOURNAL

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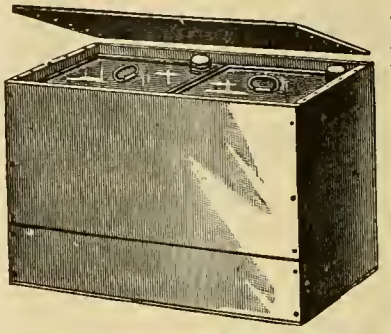

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The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., NOV. 20, 1902. No. 47.

Editorial Comments.

DEATH OF DR. A. B. MASON.

On Thursday, Nov. 13, we were shocked to receive the following letter, telling of the death of Dr. A. B. Mason, one of the oldest and most active bee-keepers in the United States, and for years Secretary of the National Bee-Keepers' Association :

TOLEDO, OHIO, Nov. 12, 1902.

MR. GEORGE W. YORK, Chicago, Ill.—

DEAR MR. YORK :—One week ago last Thursday, Father Mason met with a very serious accident. An explosion of natural gas occurred in the summer kitchen at his home, and he was badly burned about the head, face, and hands. From the first we were very anxious about his condition, knowing how difficult it is for one of his years to overcome the nervous shock of such an accident. For a few days he seemed to do nicely, but last Monday he began to fail, and died this morning at 7:55.

We knew that father would wish you to know the circumstances of his death, so I have taken the liberty of addressing this letter to you.

Very respectfully,
His daughter,
MRS. ELLIS E. MASON.

DR. A. B. MASON.

The foregoing sad notice came too late to permit of a biographical sketch appearing in this issue of the American Bee Journal, but next week we hope to be able to place be fore our readers an extended resume of Dr. Mason's life.

All will unite with us in extending sincerest sympathy to the bereaved family, in their untimely loss.

Uniting Colonies should have been done before this, but if you have unfortunately neglected it till now, you may as well take what comfort you can out of the thought that there is at least one advantage in late uniting—bees are not so much inclined to fight when it is too cool for them to fly. All you need to do is to put into one hive enough bees and enough honey, and there is not likely to be any fighting. It is better if the queen of the colony to be united has been killed a few days before uniting, but still you can leave that to the bees. Just take of the colony to be united the combs to which they are to be united, having first removed from this latter a sufficient number of combs for the purpose, making sure that you have enough stores for the united colony. It is a good plan to do this removing a day or two in advance, brushing down upon the top-bars the few bees that may be on the removed frames, and it is also well to prepare in advance the bees to be united, by spreading the frames a little apart and moving them away from the side of the hive, so as to have the bees on as few combs as possible.

But don't count on doing this next fall, for it is better to do the work early and allow the bees plenty of time to arrange their brood-nest in the best possible manner. They can beat you all out at arranging a winter brood-nest.

Concrete Hive-Floors are spoken of considerably in the Australasian Bee-Keeper. They have the advantage of durability, and perhaps of economy. Their weight, of course, makes them objectionable, if they are to be moved.

Hive-Covers are having some discussion in the Australasian Bee-Keeper. Single board covers are in less repute there than here, because of the great heat, combs melting down under them. Preference is given to a cover having an air-space, as a gable cover, or a telescope cover, allowing some kind of a covering beneath, and the editor thinks protection should be given against the sun on the sides as well as the tops of the hives.

Alfalfa in the Future.—Some apprehension has been expressed as to the future of alfalfa, because of the tendency of ranchmen to cut it for hay before the time of bloom. M. A. Gill thinks this an idle scare. He says, in Gleanings in Bee-Culture, that intelligent cattle-feeders understand that the best results are to be obtained from hay cut when in full bloom, and earlier cutting is only made at a loss. H. D. Watson, the "alfalfa king," assured Editor Root that we need not be alarmed about the ranchers cutting their hay before it bloomed.

Don't Waste Pollen.—It is not an uncommon thing to see combs of pollen going to waste in the hands of those who are careful to save the smallest quantity of honey. Indeed, there are probably many who attach no money-value whatever to pollen. The bees, however, set a high value upon it. Without pollen, no brood-rearing. "But the bees gather more than they need, and there is no possible good to come from having a store of pollen in the hive when the bees can get plenty of it in the fields." Are you so sure of that? Do you know to a dead certainty that a colony which has a good store of pollen in its combs will bring in just as much pollen from the fields as it would with no pollen at all in the hive?

Probably few have made sufficiently careful observations to realize the great amount of pollen used by a colony of bees in the course of a year. During the great brood-rearing period, early in the season, a close observing will show that the store of pollen left over from the preceding

year becomes gradually less until the beginning of the harvest, when it becomes very low. Is it not barely possible that if the stock of pollen had been greater it would have allowed the gathering of just so much more honey? That is, if enough pollen were already in the hive, for use during harvest, the energies of the pollen-gatherers might be used entirely in gathering honey.

So if, in your preparations for winter, you have thrown out some frames well filled with pollen, see that they are carefully saved for the needs of the following spring. It is barely possible that in some places pollen is so very abundant that it is not worth saving. Testimony is needed as to this.

History of Shaken Swarms.—L. Stachelhausen, who is regarded as the pioneer in this country in shaking or brushing swarms, does not consider them as anything new. He says in Gleanings in Bee-Culture:

That we can take from a strong colony all the frames of brood except probably one or two, and give empty combs or starters in their place, was known long ago, and this is the same thing as a brushed swarm set on the old stand, and the same thing as the driven swarm forced from a straw-skep and known more than 100 years ago. Gravenhorst made a step in advance, advising a way by which the bees brushed or shaken from the combs could be set on a new place and would stay there, at least the greater part of them. This, too, is 20 or more years old. I, myself, described this method in The Apiculturist in 1884, page 97.

The Weekly Budget.

Pay Up or You Can't Vote.—Any one knowing himself to be in arrears as a member of the National Bee Keepers' Association, and who desires to vote at the coming election (in December), should at once send his dues ($1.00) to the General Manager, Eugene Secor, Forest City, Iowa. Voting blanks will be mailed early in December to every member whose dues have not lapsed.

Also, any bee-keepers who are not yet members, and would like to become such, will need to mail their dues to Mr. Secor right away, if they would like to vote at the election.

A General Manager for 1903, and three Directors to serve for four years, are to be elected.

The membership of the Association is now about 900. It should be at least 9000.

We understand that the General Manager's annual report is now ready for the printer, so it will likely be mailed promptly to the membership after Dec. 1. If not already paid, you would better send your dues ($1.00) to Mr. Secor immediately—do it *now*, before you forget it.

Mr. J. E. Crane and Henry Robbins, of Addison Co., Vt., called on us on Nov. 7, when on their way home from a western trip, through Idaho, Colorado, and other States. Mr. Crane's honey crop, the past season, was upwards of 30,000 pounds of comb honey. He usually ships his honey to Chicago. Mr. Crane is one of the foremost bee-keepers of the whole East. Mr. Robbins is more of a farmer than bee-keeper.

S. F. Newman, of Huron Co., Ohio, was killed on a railroad crossing by a passing train. Although not extensively known of late years, he was an intelligent and successful bee-keeper, and was noted as the man who wrote for the secular press the story of the making of artificial eggs. The chemist was able to supply successfully everything to make an egg that hatched out a perfect chicken, only the chicken had no feathers, and efforts were being continued to find the proper chemicals to produce the feathers. It was a fine bit of work, and was written at the time when the canard about the manufacture of artificial comb honey was in its most flourishing condition, so as to help, by its absurdity, to show the absurdity of the artificial comb-honey lie. But the story was so well told, that, in spite of its absurdity, it had many believers.

Mr. J. G. Corey, of Ventura Co., Calif., called on us last week. He had been on a trip to the Atlantic Coast. He reports scarcely any honey in his locality this year. There seemed to be abundance of bloom, but, practically, no nectar in it. In his early days in California he bought a small colony of bees for $100. That season he increased it to six colonies, and then sold the six for $600. Now fair colonies of bees can be had there for $3.00 a colony, and with a pretty good hive, too. Quite a change in less than half a century.

The Apiary of G. G. Fall, of Strafford Co., N. H., appears on the first page. When sending the photograph he wrote thus:

I send a picture of my home apiary. I have another one situated in the White Mountains, about 60 miles away. I am a railroad man, and have kept bees for 20 years, more for pleasure than for profit.

I think the season of 1902 was the worst we have had during my experience with bees. Mt. Washington, which is 15 miles from my out-apiary, is now (July 5) quite white with snow, but I never saw more white clover, and the bees are doing nothing with it, as one day it rains and the next day the wind blows, and it is so cold they are unable to work. So the outlook for a honey crop is very poor.

A Magazine 30 Years Old.—The Christmas (December) number of the Delineator is also the 30th anniversary number. To do justice to this number, which, for beauty and utility, touches the highest mark, it would be necessary to print the entire list of contents. It is sufficient to state that in it the best modern writers and artists are generously represented. The book contains over 230 pages, with 34 full-page illustrations, of which 20 are in two or more colors. The magnitude of this December number, for which 728 tons of paper and six tons of ink have been used, may be understood from the fact that 92 presses, running 14 hours a day, have been required to print it; the binding alone of the edition of 915,000 copies, representing over 20,000,000 sections, which had to be gathered individually by human hands.

An Explanation on the Denver Report.—We have received the following from Dr. Miller in reference to the report of the National convention which we are now publishing:

Mr. Editor:—I desire a word of explanation with regard to the report of the Denver convention, as some who were not on the ground might not fully understand it. I refer to that part in the second column on page 694, where Dr. Mason, without addressing the President, turned to me and said, "That is pretty small, but you are a small man."

Mr. Harris, as appears on page 693, made a motion. After a little discussion Mr. Harris said, "We are all out of order at the present time, as the motion has not been stated." Still the discusion went on, and Mr. Booth rose to a point of order, and said, "I have not heard any question stated by the chair." Still the discussion went on, and Mr. Harris, again rising, said, "There is nothing for discussion, and I would like to talk on the motion when properly put by the chair." Seeing that the President evidently did not get Mr. Harris' point, I thought I could help straighten matters out, and arose and tried to make it clear to the President what it was that Mr. Harris wanted, using, I think, some words that do not appear in the report, and explaining further that the stenographer could read the motion, and then the President could state it. It was then that Dr. Mason said, "That is pretty small, but

you are a small man." It was not I, but Mr. Harris (who is not a "small man"), who was insisting on parliamentary rules, if insisting on parliamentary rules can be called "pretty small," and I was merely trying to call the attention of the President to what Mr. Harris wanted.

C. C. MILLER.

Convention Proceedings.

THE DENVER CONVENTION.

Report of the Proceedings of the 33d Annual Convention of the National Bee-Keepers' Association, held in Denver, Col., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 727)

Pres. Hutchinson then called upon E. R. Root to reply to the paper of Mr. Morehouse, on

"BEE-KEEPING LESSONS THAT MAY BE LEARNED FROM THE WORD 'LOCALITY.'"

E. R. Root—I read over the paper by Mr. Morehouse, but I have given the matter no further thought until just now. I don't know that I am prepared to give this matter a consecutive and careful reply, but I will try to take up some points he suggested.

If I remember correctly, he took up the matter in a general way, leaving me to take it up in a specific form, to suggest, if possible, how localities differ as to the mode of treatment of colonies in the United States.

If we take the locality known as the Rain-Belt, or that portion of the United States where rain falls, and they do not depend upon irrigation, starting, perhaps, southward of the Ohio River, northward taking from Minnesota to Maine, the New England States, and all that portion of the country including New York and Pennsylvania, we have a special mode of treatment for preparing colonies to bring them up to the condition whereby they may take in the white honey-flow that will commence anywhere from the first of June to the first of July, and lasting anywhere from four weeks to possibly two months. It seems to be necessary to make the treatments in the East of preparing colonies and getting them ready for the honey-flow that shall occur a little later, getting the largest force of bees possible to gather the honey-flow at that season of the year in June or July, as we do not over the other portions of the country.

Starting south in Texas, coming along through Arizona, up into California and back into Colorado, the mode of treatment has to be varied very considerably. Taking over that portion of the country out West, of which I speak, the seasons are longer, lasting anywhere from a few weeks to several months; the honey-flow is perhaps not so rapid as we have in the East, such as we get from basswood; it is slower, and the flow comes at such a time that the bees could readily take care of it. Take, for instance, in Texas, they have a number of unimportant honey-plants, such plants as are only useful for stimulating the bees for the honey-flow that comes on later; those plants are of such a nature that through a little honey-flow, slowly, brood-rearing progresses satisfactorily, no feeding necessary, as for us in the East; and the consequence is, when the heavy honey-flow comes on the bees are ready, and of the right age, to gather the flow that shall come. The most important flows in Texas, if I mistake not, are from mesquite, guajilla and catclaw. Those follow one after the other, so that the mode of treatment in Texas seems to be quite different from what it is in the Eastern States, and in the northern portion of our country.

Another peculiarity of locality is that which affects the swarming problem, and in lower Arizona, and some portions of California, it is not such a serious one as with us in the East; the swarming comes on earlier in the season, with the minor honey-plants, and it seems that the bees are not inclined to swarm when the heavy honey-flow comes on later, and the bee-keepers are prepared to take care of the swarming when it does come, also the extracting, because they come at a time when there is not much work to do. Then, after the honey-flow comes on, the swarming ceases and the bees get down to hard work. That condition does not prevail in the East, only to a slight extent, when the heavy honey-flow comes on; that is, the bees may let up somewhat from swarming, but they do not cease entirely until the honey-flow stops. In Texas and Arizona, and some parts of California, the honey-flow comes on with such a rush, and continues for such a time, that the swarming stops almost entirely, or lets up enough so that it is not a difficult problem, and out-apiaries can be left to themselves. I see Mr. Scholl nods assent, so I am correct.

Then there is the question of disease. Bee-paralysis is much more virulent in the South, in some portions of California and the West than it is in the northern and central portions of the United States known as the Rain-Belt. When I speak of the Rain-Belt you will know exactly where I mean: Those States that I referred to in the East, north of the Ohio River and between the Atlantic Ocean and Mississippi River, and taking in perhaps Iowa, Minnesota and Wisconsin; in that portion the disease known as bee-paralysis never amounts to anything; we see, occasionally, colonies having that disease, where the bees are tremulous in their motions, some of them die off, but I never knew where it was very serious; it might amount to the killing of one colony.

When we go southward into the Southern States, especially Florida, we find bee-paralysis is a very serious disease; why, we don't know.

Then the question of foul brood and black brood seems to be somewhat a matter of locality. We find, so far, that black brood is confined mainly to the State of New York; I don't think there is very much in the West. I have known of one or two cases where it was in California, but I never knew of a case in Texas or Arizona; and, if I mistake not, there is very little or no foul brood in Texas. Am I correct in that?

Mr. Scholl—Yes.

Mr. Root—The conditions do not seem favorable for the propagation of that disease, but I advise my friends in Texas not to try the experiment.

Then the question of hives (the size of) depends largely upon locality. Large hives seem to be better in warm localities where the honey-flow continues for a considerable length of time.

Then the question as to whether comb honey or extracted honey is another factor; if extracted only, then the 10-frame Langstroth, or Jumbo, seems to be preferred; if comb honey, then the 8-frame Langstroth, or some similar small brood-nest would be used as in the East. In Texas and California comb honey can be produced over the 10-frame hive very satisfactorily, because that hive can be used for extracted or comb honey; it seems to prevail very largely, although there are marked exceptions to this rule.

There is another peculiarity that I noticed in Colorado from talking with a number of bee-keepers, and that is the matter of tiering-up. The question of tiering-up in the Rain-Belt is quite a complicated one. We don't know how long the honey-flow is going to last, or when the weather will change suddenly; that prevails over large portions of the United States; but in Colorado, if I understand it, you know just when your honey-flow is going to stop, or nearly so—when the mowing machines have gone over the field; you know when they will have about all the alfalfa cut, and you know when the honey-flow will stop. If I understand correctly, you tier-up in such a way that nearly all the sections will be completed at the end of that honey-flow, when the cutting of the alfalfa is through. The question of tiering-up in Colorado is quite peculiar.

Another peculiarity here is, you do not have to look out for the moth-worm or the moth-miller; I don't think that pest bothers at all in any of the localities except in the southern portions of the United States, among bee-keepers who are not possessed of the modern methods of handling bees, but it is somewhat a matter of surprise—was to me, certainly—to know that the moth-miller had not been known to exist here or do any harm whatever, even when the bees were handled by the old-fashioned method, and even when the box-hive with the black bees was used.

Then the question of wintering seems to vary a good deal in the United States. Take it on the Atlantic Coast and up as far as Massachusetts, a single-wall hive will do very well. In northern Minnesota, northern Michigan, in the northern States, and through the Rain-Belt, the cellar-wintering seems to prevail, because it gives better results

and less loss in wintering. But south of the Ohio River the chaff-hive is not used; even south of the lakes in our locality the chaff-hive and cellar-wintering are used about equally.

Then the question of buckwheat cuts considerable figure in the Rain-Belt. Take it in Ohio and most of the Eastern States, there is nothing we expect with any degree of certainty after the basswood flow; there may be a fall flow, but it is so exceptional we don't expect anything, and our intention is, so far as possible, to get done brood-rearing and keep the colony in as near a dormant condition as possible when wintering comes on, and then prepare for wintering.

In the State of New York there are vast fields of buckwheat, and shortly after the honey-flow of basswood and white clover then comes on the buckwheat, and there will be a flow for two or three weeks, or longer, perhaps, putting the bees in the best possible condition for wintering. So that even in the Rain-Belt we have conditions that vary considerably.

As I went over the country studying conditions that exist in various portions of the United States, I have said two or three times that the knowledge one bee-keeper might have in the East would avail him but little if he went to the West; it is true, one who is thoroughly experienced with bees can go West and carry on bee-keeping, as we know they do do, and do it successfully, but I have known of cases where Eastern bee-keepers, who were successful, have gone West and failed just because they have gotten into ruts and couldn't possibly change their conditions; they thought they must continue stimulating by rearing brood, and so on, when that procedure would result almost in disaster when carried on to the same extent in the West.

Other conditions, which I noticed were a little peculiar in Arizona, and they are the matter of shade and the matter of entrances: that is, in Arizona, where it is so warm, when the temperature ranges up towards the hundreds, and perhaps more, they have these shades I speak of, and which were illustrated on the screen; they put their hives in such a way that the hives are protected from the sun. It is so very warm there that in Arizona I did not see a single hive out in the apiary exposed to the sun, and it seemed to me such shade as that would be very advantageous here in Colorado, in Central California, in Texas, and many localities where the sun beats down so hotly. The shades which I saw in Arizona were cheaply put up, made of common material, oftentimes over a rude, rough trellis. put up, perhaps, 20 or 30 feet wide, and perhaps 100 feet long, and so arranged that weeds or grass could be piled on top to make a shade, to protect it from the hot rays of the sun. I am convinced that that would be a great advantage in localities where the sun beats down very warmly, and it would better conditions all around.

As I said a moment ago, the greatest difficulty about one bee-keeper migrating to a new country is because he sticks to old ruts. If one wants to know about the conditions in the West he must study them thoroughly, and take the advice of those around him, and not follow the old methods of the old text-boods that were prepared and written for bee-keeping as it exists in the Rain-Belt.

Pres. Hutchinson—I think Mr. Root has covered that subject very well, but if there is any one that would like to speak further he is privileged to discuss it.

A. Nelson—In reference to shade, I would like to say one word. In southeastern Utah we have a few colonies of bees. I have some which stand out under a row of trees, facing the east, and the sun shines on those trees, and at 12 o'clock those bees are in the shade the rest of the day. I also have bees right out in the open ground where the sun shines on them all day. The bees that are in the sun all day long are the stongest colonies, and gather the most honey in our section of the country. The heat is not so strong there that we need to shade them. I don't know whether that would be the case here in Colorado or not, but that is the case in southeastern Utah. The sun seems to have a great effect on brood-rearing in the early spring, and, consequently, we get stronger colonies by having them out in the sunshine all day long.

Dr. Miller—What is the warmest weather you have.

Mr. Nelson—The warmest weather we ever have is 110 degrees.

Dr. Miller—In the shade?

Mr. Nelson—In the shade.

E. S. Lovesy—I am authorized by the Utah bee-keepers, and the Governor of our State, the Chamber of Commerce, and the citizens of Utah, to invite this Association next year to hold the convention on the shores of the great and only Salt Lake. Brethren, if you come along you won't regret it; you will feel the way we do to-day. A gentleman that just sat down was somewhat undecided whether to come to this convention or not. Yesterday he said to me, "Why, Mr. Lovesy, I wouldn't have missed this convention for ten times the cost of the ticket." We wish to thank heartily the people of Colorado, and the bee-keepers of Colorado, for the generous way in which they have treated us. But, then. it is not to be wondered at; even the people from Illinois, Ohio and New York, when they get out into this mountain air, can't help but feel generous, whole-souled and big-hearted.

We produce some honey out in Utah, and we raise many other things. I brought a few things along here, and I wish the people to take them away. I brought a box weighing 75 pounds, and I had quite a job getting it here, and I don't want to take it back again. I need not boast to you about our honey-flow when I show you an article of that kind [exhibits a bottle of honey.] I have had reports from nearly all over the State, in the last three weeks, and while there are quite a number of places where they have not produced a great deal of honey, we have a number of reports that cover an average of 300 pounds per colony. When we get a flow of that kind, and honey like you see here, we have to have a big flow of honey to do it. You all know that bees always gather the best, and when you get a first-class quart of white honey it is always the best. I was thinking yesterday, when the subject of adulteration was up—and, do you know, it is a fact that we have to adulterate this honey to get rid of it? [Laughter.] A great many people declare up and down that it is sugar and water, when we present them with the very best quart of white alfalfa honey, and they say, "We don't want your sugar-honey." But if we put something dark-colored in, and give it a golden tinge, it is all right.

One gentleman, up in Idaho, wrote me last week, lamenting that he had left Utah and gone up there; he said, "Mr. Lovesy, the nights are too cold here, and we have too much wind, and Idaho will never be the country for a honey-flow that Utah is."

Nature, in her distribution of her treasures, made no mistake; the Saints made no mistake. the Mormons made no mistake, when they settled down in that country. We read and sing about the mountain sides covered over with Saints, milk, honey and wine. I wouldn't vouch for the former, and I am very pleased to say we do not have much of the latter, but when it comes to the milk and honey we have plenty. I remember a little story told when the Mormons were going to Utah. A man told Brigham Young he would give $100 a piece for every ear of corn he could raise out in that country. "Why," he said, "a digger Indian can't live out there." Brethren, if you come out there next year we will show you what we are doing.

I thank you for your attention, and I hope you will come along and meet us next year, and if you do we will meet you the following season in St. Louis.

Dr. Mason—I had a letter from Mr. Lovesy, who is president of the Utah Bee-Keepers' Association, expecting to introduce it at the proper time, but he has got the start of me, so I won't need to read it. I wanted to show him I was not negligent in the matter, and wanted to attend to it.

John Merkley—I want to say amen to what Mr. Lovsey has said. I will say, as one of the Utah bee-keepers, we will try and make you welcome. If you will come and see us I believe we can make it interesting for you.

J. Bolinger—In reference to keeping bees in the sunshine in Colorado, I have kept bees in Morgan County, 88 miles east of Denver, for 12 years, and I have never kept any in the shade except a colony or two, and I don't have my hive-covers painted either, and in 12 years I have never had any melt down. I really prefer to have my bees in the open sunshine, and not in the shade.

I. Williams—If we are going to take up a place of the next meeting I would like to have a word.

Pres. Hutchinson—This convention can't decide where the next place of meeting will be; the Executive Committee fixes the place. We might talk all day and we can't fix that here. When the time comes we will have to depend upon what rates we can get. and other things. All talk as to where the next meeting will be held would be useless.

(Continued next week.)

Honey-Dew in Colorado, the Rocky Mountain Bee Journal says, has never been seen until the present season; but this year, Sept. 19, the bees were fairly crazy over honey-dew on the willows.

Contributed Articles.

Where Shall the Bees Be Wintered?

BY G. M. DOOLITTLE.

QUESTION.—Where shall I winter my bees? Shall I put them in the cellar, wrap them up with tarred paper, or let them be as they are for winter? I have several colonies of bees for the first time in my life, and wish to know where and how it will be best to winter them. I take the American Bee Journal, and the reading of each number is a feast to us.

ANSWER.—As our questioner lives near latitude 41 degrees north, I will say that there is probably no better place for him to winter his bees than in a good, dry cellar; and if he has such a cellar I would advise him to put his bees in it for wintering. While this is not absolutely necessary for safe wintering, and not as necessary in our southern as in our northern localities, yet there will be a greater saving in honey to the apiarist, as well as better chances of successful wintering, even as far south as latitude 37-8 degrees, below, where bees seem to do fully as well when on their summer stands.

If the cellar of the questioner has a variable temperature it will not be as good for the bees as would be one in which the temperature could be kept as nearly at 45 degree as possible; yet if the temperature does not go above 50 degrees, nor go lower than 35, it will winter bees much better than to leave them on the summer stand unprotected. If the cellar is of more variable temperature than this, the bees would doubtless be better off out-of-doors.

To prepare the hives properly for wintering in the cellar they should be carefully carried in on some morning when it is a little cooler outside than the temperature which is required for the bees to fly, and never when the hives are frozen down to the bottom-boards or to the ground, if such can possibly be avoided. When the hives are thus frozen down, the jar and confusion which comes from prying them loose results in great irritation to the bees and causes them to consume so much honey that it often leads to unsuccessful wintering afterwards.

After getting them to the cellar the hives should be set on a bench a foot or more off the cellar bottom, and the hives raised by some means at least two inches off the bottom-board or bench. Failing to do this the hives will not be properly ventilated, and the result will be that the bees may become uneasy from lack of proper ventilation, which will cause them to consume more stores than is necessary to their existence, thereby needlessly using up the honey, and often leading to disease and death. If it is not convenient thus to place them, the hives may be turned bottom side up, if the frames are fastened in the hive, or box-hives are used, and a light, thin fabric of some cotton goods thrown over the mouth of the hive; still, the first is much preferred.

I also think it better that the cellar should be dark, or that part of it in which the bees are wintered. Some claim that bees will winter as well in a light cellar as a dark one, which may possibly be so if all the conditions for successful wintering are present; but as such conditions are usually not all present in many, if any, cellars, it is always best to be on the safe side; hence the advice to have the cellar dark.

If the cellar is lacking in many of the qualities which go to make a good cellar for wintering bees, then it may be best not to try it at all, in which case we must try the next best plan, and one which is quite suited to all latitudes south of 42 to 44 degrees, that is, wintering on the summer stands packed with chaff, leaves, fine hay or straw. While a chaff hive is the preferable thing, yet it is not supposable that all may have such hives, so we must fix the bees the best we can according to our environments.

If you do not have chaff-hives, go to your store and procure dry-goods boxes of suitable size, or otherwise make them, in which the hives can be set, and leave room all around for packing. A space of three or four inches is about the right amount to leave, for experience has proven that this is better than a larger or smaller amount. The bottom-board should be raised that distance above the bottom of the box, and after having packed under it, it should be secured there, and so as to touch the front side of the box also, as the bees must pass over this to get outside of the box. Half an inch above the bottom-board a thinner board should be secured in the same way to both the hive and the box, immediately above the entrance to the hive, so as to keep the packing material from obstructing the passage of the bees, for this is now to become the entrance to the hive.

Having this fixed, and the hive thoroughly secured to its place, we now put in the packing, pressing it in quite tightly, so that as even a temperature as possible can be maintained inside of the hive, packing the material in as nearly alike on all sides as possible. When the top of the hive is reached, the honey-board, if one is used, should be removed, and two or three thicknesses of cotton cloth spread over the top to keep the packing from rattling down into the hive, and also that, in thus providing for ventilation, a direct draft shall not be allowed through the hive.

Having all fixed as above, fill in the packing to the depth of four inches all over the top of the other packing, as well as over the hive, keeping it as evenly distributed as possible, but allowing it to be more loose and open than at the sides. The box should be tall enough so as to come a a few inches above the packing, so that the cover, which is now to be put on, shall not touch it. This last is very important, for, should the packing touch the cover to the box, it will absorb the moisture which condenses on the cover, to such an extent that all will become wet and moldy long before spring.

No matter whether it is chaff-hives, or boxes packed as above, there should always be a few inches of space above the chaff or packing so that the moisture arising from the bees may have a chance to pass off to the outside air with as little condensation as possible. Having your bees thus fixed, or in a good cellar, they will winter much better than if left to take their chances in unprotected hives.

Onondaga Co., N. Y.

Maeterlinck's "The Life of the Bee"—A Defense.

BY C. P. DADANT.

I CAN NOT pass, without a protest, the mention made by Mr. Albert Gale, in the Australasian Bee-Keeper, quoted in the American Bee Journal on page 547, of Maeterlinck's "The Life of the Bee" as a "comic book on bees." It is true that there are a few very unimportant incorrect statements made in the wonderful work of Maeterlinck. But this writer does not claim infallibility. He does not even claim to write a treatise for practical apiculture. I quote from his first page:

"It is not my intention to write a treatise on apiculture, or on practical bee-keeping. Excellent works of the kind abound in all civilized countries, and it were useless to attempt another.....Nor is this book to be a scientific monogram.....I wish to speak of the bees very simply, as one speaks of a subject one knows and loves, to those who know it not....."

Maeterlinck has written a book that will remain, because it is a scientific subject put into prose. Any one who has read this book has become interested in the bee, whether he knew anything about bees before or not.

On the way home from the Denver convention, I met a gentleman from Chicago, traveling in the same sleeping-car I did, who was interested in entomology. He knew nothing about bees otherwise than as an entomologist; had dissected some bees, queens and drones, and had made some personal studies of their anatony. When he found that I was a bee-lover, his first words were, "Have you read the 'Life of the Bee' by Maeterlinck? What a masterpiece it is. What a romance at the same time as a work of information!"

A few days ago, I met a lady teacher who had read the same work. She knew nothing about bees, had never owned a colony, but had become a lover of the bee through the inspiration given by this poetical prose.

We are all human, and therefore all liable to err. Mr. Albert Gale undoubtedly is not an exception to the common rule, but when one of our race writes something which can cause others to pass many pleasant hours, while reading the unfolding, in an attractive manner, of facts that are not in themselves enticing reading, a few slight errors may easily be pardoned, especially if the writer frankly dismisses all claim to technical knowledge.

Maeterlinck's work is beautiful, not "comic" or ludicrous, as the Australasian critic would make us believe. Let

me quote a page among the many, a gem among the gems, his admiration of the energy of the worker-bee:

"Why do they thus renounce sleep, the delights of honey and love the exquisite leisure enjoyed, for instance, by their winged brother, the butterfly? Why will they not live as he lives? It is not hunger that urges them on. Two or three flowers suffice for their nourishment, and in one hour they will visit two or three hundred, to collect a treasure whose sweetness they never will taste. Why all this toil and distress, and whence comes this mighty assurance? Is it so certain, then, that the new generation whereunto you offer your lives will merit the sacrifice; will be more beautiful, happier, will do something you have not done? Your aim is clear to us, clearer than our own; you desire to live, as long as the world itself, in those that come after; but what can the aim be of this great aim, what the mission of this existence eternally renewed?"

Perhaps Mr. Gale cannot see any literary beauty in such passages. Perhaps, when he reads of bees, he expects only to be told which is the best hive or the best manner of harvesting surplus. Perhaps, also, he has not read Maeterlinck very carefully, for he misquotes him. For instance, he quotes him as saying, "The nurse-bees feed nine or ten thousand eggs, the eighteen thousand larvæ and the thirty-six thousand nymphs." Opening the book at the incriminated passage I read: "For this is the royal domain of the brood-cells, set apart for the queen and her acolytes; about 10,000 cells wherein the eggs repose, 15,000 to 16,000 chambers tenanted by larvæ, 40,000 dwellings inhabited by white nymphs to whom thousands of nurses minister."

I read Maeterlinck in the original French when it was first published; I have since procured the English translation, and I have this to say to the readers of the American Bee Journal: If you wish a text-book on bee-culture, do not buy Maeterlinck's. If you wish a practical work giving cuts and descriptions of bee implements, you will find nothing of the kind in his "Life of the Bee."

Neither will you find in it anything ludicrous or comical. But if you wish to pass a few pleasant hours; if you can enjoy a little poetical prose, on a subject which is familiar to you, send for "The Life of the Bee." Any person, whether bee-keeper, banker, laborer, farmer, or school teacher, even if he were unable to know a bee from a hornet, can profitably and enjoyably read this book.

Hancock Co., Ill.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON.

Suggestions for the Cool Months.

After the honey is sold, and the bees ready for winter, there naturally comes a little lull, and we have a chance to draw a long breath; but the winter months are not to be idle ones so far as the bees' interests are concerned. This is our chance to get ready for next year.

It is well to begin by taking an inventory of what we are likely to need—how many new hives, frames, bottom-boards, covers, sections, etc. In making an estimate, perhaps it is well to err on the side of having too much rather than too little.

In the very busy season we have no time for this kind of work, at least we don't want to take any time for it; we want this work out of the way while we have the leisure for it.

I know it is often said that a woman can not drive a nail, but bee-women know better than that, for many of them do their own carpenter work without any assistance, and do it well, too.

Besides making new, there is always some repairing of the stock on hand to be done. Now is the time to do it. There is boiled-down comfort in having everything ready for use.

CLEANING T TINS.

Do you use the T super? If so, have you your T tins all cleaned ready for next year? Don't forget that they can be cleaned with concentrated lye, so that they will look almost as good as new.

OVERHAUL THE SMOKER.

Give your smoker a good overhauling, and put it away in good shape for work when needed.

LATE FEEDING OF BEES.

Are you sure that your bees have plenty of stores for the winter, and that you have done everything you possibly can to insure their comfort and safety during their long nap? If you are so unfortunate as to have to feed your bees at this late hour, don't try to feed syrup, it is too late for that. If you do not have frames of honey to give them, then feed them candy.

READING BEE-LITERATURE IN WINTER.

How much of your time are you going to give to bee-literature this winter? Have you made any plans as to what you are going to read? Remember, if you are going to be a tip-top bee-keeper you must put your best effort into it. Get all the knowledge in regard to bees that you possibly can, and be ready to put it into practice when the right time comes.

"FAITHFULNESS" THE KEY-NOTE.

Don't get discouraged because you can't learn all about bees in a day. Possess your soul in patience, and keep pegging away. There is an old proverb that says, "Keeping everlastingly at it is sure to bring success." Be that as it may, be sure that *faithfulness* is the key-note to success in every department of work.

SAVING BITS OF WAX, COMB, ETC.

Now is a good time to get all the bits of wax and pieces of old comb, etc., together, and extract the wax from them. That is, unless you have been so energetic that you have it done already. If you have carefully saved all stray bits it may be a surprise to you to see the nice cake of golden wax you will have as the result of your labor.

Preparation for Whitening the Skin.

A very nice preparation for whitening the skin, is made of oatmeal, honey and lemon-juice. Mix oatmeal and honey together until you have a thick paste, then add enough lemon-juice to make the paste of the right consistency to spread on easily.

Advantages of a Deep Bottom-Board.

Are you using a deep or a shallow bottom-board? There are many advantages in having a deep bottom-board. Especially is this true in regard to wintering. It allows the bees to cluster below the frames; and what bee-keeper does not enjoy peeping into the hives and seeing a large cluster of contented bees hanging in plain sight, apparently saying all is well.

It gives them plenty of air, and there is no danger of the entrance being clogged with dead bees as with a shallow bottom-board. It is an easy matter to clean out all dead bees if you wish, the space (2 inches) being ample to allow their being raked out without disturbing the bees, unless they are clustered below the frames, in which case there is seldom any cleaning out necessary, for when you find a cluster so large as to extend down through the 2-inch space and rest on the bottom-board, you will generally—perhaps always—find that the bees themselves keep their floor swept up clean.

During the honey harvest 2 inches is too much space to allow under the brood-frames, for the bees will build down and fill it solid with honey and brood—a thing that is not desirable.

The bottom-board can be reversed, but that means a good deal of heavy lifting—a thing to be avoided as much as possible—so a false bottom-board can be slipped in under the brood-combs, leaving just the right space. It is taken out in the fall as soon as the bees quit storing, and left out until near the time for the next harvest.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Foul Brood.

1. How can one say for certain this is foul brood or chilled brood?

2. Is there a certain remedy for foul brood?

3. Can it be cured or not?

4. How do the bees carry foul brood from one hive to another? Is it in the honey, or is it transferred to other hives?

5. What would you advise one to do if he had 30 or more colonies that he was afraid had foul brood, and they were all the bees he had? I have 12 colonies that have had something the matter with them the past three years. I am afraid it is foul brood. Here it appears about the latter part of May and disappears during the latter part of August. Before and after that time the brood looks clean and nice, but when that appears it looks just as I see foul brood explained. The bees do not do so well as they would if that was not the case. What would you do in a case like this? WISCONSIN.

ANSWERS.—1. The special feature of foul brood that distinguishes it from chilled brood is the odor and ropiness.

2 and 3. The McEvoy treatment has been effectual in a great many cases.

4. It is usually carried in the honey. A colony badly affected with foul brood is not able to protect itself against the robbing of other colonies, and the microbes are carried with the honey.

5. Make a business of informing yourself fully upon the whole subject. Study carefully all that is said in your text-book, and get Howard's foul-brood pamphlet. That will be much better than the information to be had in this department, for our good editor would be likely to shut down on me if I should attempt to take all the space necessary for subjects already treated in the text-books. It is possible your bees have foul brood in a mild form; and yet one would think greater headway would be made in three years.

Perhaps Bee-Paralysis—Wintering Bees—Eating Honey.

I have one colony of bees that I am puzzled with. In August and September, 1901, the bees began to die off very fast; even later on the bees, when in front of the hive dead, were swollen up and full, as if from confinement. I did not open the hive to see what was going on, and more than likely I could not have seen more than I could see outside. I thought to unite what would not die, but neglected to do it. When I came across that colony last spring I found a young queen, brood, and a goodly number of bees (strong), making the best showing of all, and they also proved the best. Now that same colony is dying off the same way. The reason I mention the young queen is because I always clip my old queens, and this was not clipped. This colony did not swarm in 1901 or 1902. It always goes with the rest of the best ones. Why is it that only the bees out of the one hive die off so early, and not any of the others that do but little better? This is what puzzles me. The colony is located at the same place. I do not meddle with bees any more than is necessary.

2. I winter my bees on the summer stands, where the sun shines on them. I have a rim under the hives 2¼ inches high, open the whole width of the hives, 16 inches, with wire screen 3 meshes to the inch. Is that too much opening for out-door wintering, and no packing? Bees have wintered best for me without protection; I only change the size of the entrance.

3. Don't you think every practical bee-keeper should pay his or her subscription to bee-papers in advance? Yes, sir; I will pay in advance, even though the subscriptions go up to $5.00.

4. I eat honey on bread, pie and cake. I am often laughed at by my wife. What do you think about it? She is good about cleaning sections, and hiving swarms when I am away. PENNSYLVANIA.

ANSWERS.—1. I don't know what is the trouble. The swelling and dying looks like paralysis. In that case you ought to notice the bees standing about with their wings trembling, and with a more or less shiny appearance because of the disappearance of their plumage.

2. That seems pretty open, but the best proof of the pudding is the eating, and if you have had good success in any particular way it is not a bad plan to continue it.

3. You are quite right about the importance of subscribing for a bee-paper. I can hardly be called a beginner, and yet I dare not skip anything written by the rawest beginner, for there is always a possibility that he has struck upon something that I have not yet learned. It is no doubt true, also, that the larger the list of subscribers the better able the publisher is to make improvements that will be of value to the readers.

4. Your wife is quite right not to eat honey with pie and cake, at least not much of it, for the cake and pie spoil the honey; and people are learning that cake and pie are not nearly so good for the health as bread and honey. Still, it's a good deal a matter of taste how one eats honey. I drink more than I eat of it. First thing every morning I drink a bowl of hot water sweetened to taste with extracted honey. I think my folks find me less disagreeable to live with on account of the honey. Editor York eats an amount of honey that is surprising for one of his size.—[Prov. 24-13 says: "Eat thou honey because it is good." That's the reason we eat lots of it. It's good.—EDITOR.]

Young Queen Swarming—Shipping Bees—Bitter Honey

1. I have just read what "New York" says, on page 650, about his young queen swarming this year. During swarming-time, last spring, I took a frame of young brood and put it in an empty hive, moved a strong colony and put the hive with the young brood in place of the strong colony. They sealed up 8 or 10 young queens at once. When the young queens began to hatch they cast a nice swarm. In September this same queen led another swarm out. So yousee this one was reared this year, and led out two swarms.

2. Did you ever know bees to swarm 3 months after the usual time to quit? They did this here this fall. The reason was, because there was a honey-flow of bitterweed.

3. In shipping bees you put the end of the frames toward the engine, don't you?

4. A keeps B's bees for half the honey and swarms. A decides to move, and take B's bees with him. Who ought to pay the freight, A, or B, or both?

5. In shipping bees in very cold weather would it do just to cover with wire-cloth? Would it not be too cold? If so, how would you fix them?

6. I am thinking of taking my bees to Texas. They are all in good hives, with nice combs. I could not sell them here for very much. Do you think it will pay me to take them.

7. When would be the best time to ship them, about Dec. 1, or in February?

8. I use a plain plank for a bottom-board. Would it do to nail the top and bottom boards on and close the entrance with wire-cloth, if I ship them in the winter?

9. I send you a sample of bitter honey. How do you think the bees will winter on it? We have never had to winter bees on it altogether before. ALABAMA.

ANSWERS.—1. I am sorry there are so many exceptions to the rule, but glad to learn the truth about it. But I would not call the first swarm in your case an exception. It is just what would be expected as a general rule, that when several queens are reared in a colony, if conditions are favorable, a swarm will issue with the first virgin that emerges. Although it may not always have been explicitly stated so, the rule is that no *laying* queen will issue with a swarm if a queen has been reared in a colony during the same year. Your second case of swarming was an exception to this rule, but the first was not.

2. Yes, in some places this is more or less common. It is much the same as another season coming on, and such swarms are often called "buckwheat swarms," and a swarm of the same year may send out a swarm, called a virgin swarm. This makes your second case of swarming, previously mentioned, less of an exception than it otherwise would be.

3. Yes, the frames running parallel with the track on a railroad, and crosswise in a road wagon.

4. I suppose that moving was not contemplated in the first place, and being a matter entirely for A's benefit he should foot the bill.

5. I don't believe it would be too cold, yet if the entrances are as large as they ought to be for the best results, (mine are two inches deep), closing the entrances with wire-cloth would be enough in very cold weather.

6. As you have probably had little or no experience in shipping, very likely you might better sell at a low price and then buy again.

7. Likely February would be better than December. And yet, if you were sure of a flight immediately or shortly after the moving, December might be the better time.

8. If I understand you, the question is whether it would do to have one entire end of the hive open except the covering of wire. I think it would be all right.

9. What do I think of it? I think it's bitter, but not so bitter as I expected. I should have very little anxiety about bees wintering on it.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

LAWS ON FOUL BROOD.

That is a good idea of the Colorado law concerning foul brood, to make the treatment conform to what is required by the State Association. Excellent way to keep a law up-to-date without the sad bother of getting additional legislation. In Wisconsin the treatment seems to be left for the inspector to direct. In some respects this would be still better, but the man is more liable to cherish dangerous whims about a dangerous disease than a State association would be. Wisconsin seems not to give the inspector power to destroy bees at first visit. Better not tie the inspector's hands that way. Page 615.

PAY OF FOUL-BROOD INSPECTORS.

Setting the county commissioners to fix the pay of foul-brood inspectiors is a minor weak point in the Utah law—or would be for most of our States. They'd fix it very low, hoping nobody would serve. The commissioners are usually good men, but it would be exceptional for them to be anything else than densely ignorant about bees. They would naturally view inspection as a public expense little better than foolishness; and a campaign of education would have to be carried on, which would be (to somebody) expensive of time and patience. Better to obviate this by having the law itself fix the compensation. Page 616.

LAYING WORKERS AND DEAD BROOD.

Quite possibly right, is the first answer of Dr. Miller on page 617; but there is another thing to be thought of. If I am right, bees that have had laying workers for a long time do sometimes let their combs get filthy with dead brood, without their being any special disease in the hive. Merely discouraged and fitful in their efforts; now starting a considerable brood, now letting it all starve on their hands. The final kick-the-bucket of starvation may arrive after sealing, I think, and apparently often while in the very act of emerging from the cell. Long semi-starvation, either in the last stage of growth or a previous one, may suffice to cause this.

PROPOLIS ON THE FINGERS.

And so our British cousins want to handle frames without getting propolis on their fingers! I laugh. The desire is laudable enough, surely. But I suspect that the practical way to keep propolis off the fingers is to follow some other vocation. Propolis to the bee-man is like tar to the seaman on a sailing vessel. He has to get used to it, and the sooner the better. Page 628.

WINTERING OATS ON BEES.

We can't winter bees on oats; but it seems we can winter oats on the bees, with profit to the latter and no serious harm to the former. But, then, healthy bees with first-rate stores hold a high record for wintering "any old way;" but with bad stores all the oats in Scotland can't save 'em. Page 629.

THE KNIFE IN QUEEN-CLIPPING.

"Ye Editor" left out the Hamlet from his editorial Hamlet on clipping the queen. The number of queen's legs which the scissors bereave of the foot, is about the most important consideration in the business; and to prevent needless maiming is about the weightiest reason for using the knife. Page 643.

FALL UNITING OF BEES.

To Mr. Doolittle's excellent and oft-repeated directions about fall uniting, I would add this: In a large apiary, with much uniting to be done, it is sometimes easy to use a hive foreign to all the colonies, and a full set of foreign combs of honey. Then run the bees in higglety pigglety, and their condition (from a bee's point of view) is that both nationality and home are completely gone, and fighting out of the question, because there seems to be absolutely nothing left to fight for—every bee a stranger in a strange land. Page 646.

The Buffalo Convention Report is issued in pamphlet form, size 6x8½ inches, 80 pages and cover. Besides a full report of the proceedings of the 32d convention of the National Bee-Keepers' Association, held in Buffalo, N. Y., Sept. 10, 11 and 12, 1901, it contains fine half-tone portraits of all the officers and directors of the Association; also the Constitution, a list of the membership up to the end of 1901, and the two latest bee-songs—"The Hum of the Bees in the Apple-Tree Bloom" and "Buckwheat Cakes and Honey." We believe it is the finest ever gotten out for the Association. Of course, all members of the Association receive a copy free, but there are thousands of our readers who are not yet members, but who should have this valuable Report. Better send for a copy, if you have not yet received one. Price, postpaid, 25 cents, or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal. Better order soon, before all are gone.

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"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

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My Neighbors Got No Honey.

My Golden Adel Colony gave me 125 pounds of honey; my others none, nor did my neighbors get any.—MRS. C. A. BALL, Vernon Center, N. Y.

The Adel queens are beautiful. One colony of them stored 110 finished sections.—W. B. Low, Cohoes, N. Y.

My Adel queen is 3 years old; grows more prolific each year. It rained all summer, but the Adel colony gave me two good swarms and 25 pounds of honey.—HUGH ORR, Port Huron, Ont., Canada.

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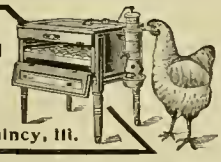

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FOR THANKSGIVING DAY

the Nickel Plate Road will sell tickets within distances of 150 miles, Nov. 26 and 27, at rate of a fare and a third for the round-trip. Tickets good returning until Nov. 28, inclusive. This road has three express trains daily to Ft. Wayne, Cleveland, Erie, Buffalo, New York and Boston, with vestibuled sleeping-cars. Also excellent dining-car service, meals being served on Individual Club Plan, ranging in price from 35 cents to $1.00; also a la carte. For reservation in sleeping-cars or other information, address John Y. Calahan, General Agent, 113 Adams St., room 298, Chicago. City ticket office, 111 Adams St. 'Phone Central 2057.

60-45A3t

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What Yon Yonson Thinks

Doodle vent to Yanka town,
He take along some hunny,
De price vas hi, he don't vas cry;
Now, he havven plenty hunny.

But he don't vas feel som very gud,
He know it don't vas rito,
For him to git das benefit
Ven dom yuyun as fite.

He tank himself vat he shal du,
He sen New York von dollar;
An now he feel so good he laff
An youst make grate big holler.

Ay vont to tell das Dr Miller if he don't vas trash his veet yet he better git some Svede mans to put good top on das straw stack, coz it bean so much raining. Ay tank ve bean plenty hungry for das nice straw das vinter. Ay tank he goan to gif us som of his finesta wheet in das merican bee-paper tu.

Ven dom bee-mans had big campmeetings in Denver, ay tank dom bean kin of cool, an mebby dom bean kine of discourage. Mebby it bean some gud ting if Yon Yonson poke up das fire little, and if Dr. Miller vill yust trow on big arm full of straw ay tank by an by ve goan to bave purty big blazing, an den ve can cook dom fellers goos vat bean sell das slop hunnys in Denver.

Ven dom bean to big meetings in Denver, Dr Miller he clime up on big hi fens, an he look an he see ting vat dom call Propaganda, vat make dom peoples ete more hunnys. My ying, ay tank dat bean som gud ting. Ay vont to git tre or four of dem tings, coz ay expect to got lots of hunny nex year. Say, Mr New York, do you tank tre or four of das Propagandas vill fite if ay keep dom in da same field? Dan tank dom bean dangerous, am dom get loos? Ay tank you ought to hav lots ma dem tings in Chicago.

Now, da telefone vat ay got in de big room on da vall, he bean da best ting to sell hunny vat ay ever seen, an ay goan to tell you bout it after vile.

Now, ay bean sen for som clover quvens, an dom vas call right, but ay musta have some of das Propaganda tu; but if dom bean bad to fite ay tank ve better turn dem in da same field ma dem slop hunny mans, den de vool vill fly, you bet, an mebby dom bean plenty sorry to put corn molasses in glas tumblers and put little bees comb in it an call it hunny.

Now, ven it bean som big vedding in das nabrebood ay yenerly hav sens nuf to stay home, if ay don't bean invited. Ven dom vant Yon Yonson to com dom sen awful nice card vat say some tings lak das:

"Ve be so happy to see Yon Yonson an vife to big vedding, an be shur an bring awful nice present." Coz den ve know ve bean in it, an ve goan to be dar rain or shine.

Now, don't you tank it bean som gud ting to sen every body big inviting to yoin demselves in to das yunyuns? Print nice card; on von side say vat das yunyuns hean for, vat it bean alreddy dun, and vat dom goan to do, an vat dom vont to do, an dat ve bean glad to hav dom yoin vid us so ve bean more able to du gud to us an dom too. Den on odder side of card say som dings lak das:

"Pleas look in close an you vill fine in das letter von dollar, for vich pleas yoin me into das N. B.-K. A. quvick."

An den sen dem cards to all dom mans vat make bee-papers, an dom kin sen ma deirs paper to all deirs subscribers. Don't you tank dat bean some gud ting? It bean so

PAGE

So Many Farmers

have found PAGE Fences better. It is certainly worth your trouble to investigate their qualities.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing.

"Bees in Colorado"

I still have several hundred copies of the souvenir with the above title. The bee-papers and a good many people without visible axes to grind have said it is a valuable and attractive thing. If you should like to have a copy, send me a silver dime or 5 two-cent stamps, and I will mail you a copy.

"BEES IN COLORADO" is the title of a 48-page and cover pamphlet gotten up to boom the Denver convention. Its author is D. W. Working, the alert secretary of the Colorado State Bee-Keepers' Association. It is beautifully illustrated, and printed on enameled paper. It is a credit to Mr. Working, and will be a great help in acquainting those outside of Colorado with the bee and honey characteristics and opportunites of that State.—American Bee Journal.

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These excursions leave Chicago every Tuesday, Wednesday, Thursday and Friday at 11:30 p.m., and Omaha every Wednesday, Thursday, Friday and Saturday at 4:25 p.m., in Pullman Tourist Sleeping Cars, **over the Union Pacific.** The cars are accompanied all the way by conductors skilled in the service of excursion parties. The **Union Pacific** is the only line from Omaha running four excursions to California every week.

These excursions can be joined at any point enroute.

For full information call on or address W. G. NEIMYER, G.A.,
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7000 lbs. Extracted Basswood Honey, stored in basswood barrels and kits. Large barrels each holding 330 lbs. net; ½ barrels, 180 lbs.; kits, 33⅓ lbs. Prices—7½c per pound in barrels, and 8c in kits, f.o.b. cars at Viola. Cash must accompany order. Sample by mail, 10c. Address,
41A13t N. L. HENTHORN, box 83, Viola, Wis.

The Nickel Plate Road

will afford its patrons an opportunity to take advantage of low rates for Christmas and New Year holidays, by selling tickets at a fare and a third for the round-trip to all points on their line, Dec. 24, 25, 31, 1902, and Jan. 1, 1903. Return limit including Jan. 2, 1903. Through service to New York City, Boston and other eastern points. Chicago passenger station, Harrison St. and 5th Ave. For further information, address John Y. Calahan, General Agent, 113 Adams St., Chicago.

66-47A5t

handy to fill out das blank an dom all no dom bean hav big inviting.

Now, das yunyuns beau better for little bee-keepers lak Yon Yonson, dan nobody elst, but mebby it bean lots ma fellers vat don't tank about it so das vay. Ay belief dom all bean villing to tak holt an help if dom have reglar inviting, and den ve be able to do lots ma gud, an start das Propaganda yust flying.

Vell, if Dr Miller don't vas git after me vid sharp stick ay come over next veek.

YON YONSON.

GENERAL ITEMS

Plenty of Stores for Winter.

I had 30 colonies of bees with queens in the spring. I averaged 16 gallons of extracted honey per colony. By dividing I have increased to 49 colonies. All have plenty of stores for winter, as I set aside honey gathered in August, and extracted the honey gathered later. B. F. BARRUS.

Tooele Co., Utah, Nov. 4.

Wintering Bees in the Cellar.

As it is near the time when the bees in our cold climate will need to be fixed up in some suitable place for the winter, I will give you a little of my experience in the care of bees at this season of the year. I hope it will be of some use to some other novice or amateur.

In the fall of 1898 I bought 20 colonies, and

WHEN ACCIDENTS HAPPEN

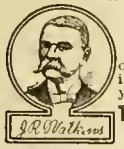
and you never know just when that will be—it's very convenient to have at hand a good, reliable, dependable remedy, like

Watkins' Vegetable Anodyne Liniment.

A burn, a bruise, a frost-bite, a cut or a sprain, an attack of rheumatism, cholera morbus, cramps, diarrhoea, flux, sore throat, mumps or diphtheria do not admit of experimenting. You want something to help you, and you want it right away. Why not, then, keep on hand a really reliable remedy, so as to have it by you when you need it?

Watkins' Liniment, for internal and external use, for man and beast, has been for 40 years the best standard household remedy known to medical science. It has peculiar penetrating qualities, and gets at the root of the trouble as does no other liniment.

Watkins' Vegetable Anodyne Liniment is sold by our traveling salesmen through the country. If our agent has not called on you, send us your name and address at once, and we will see that you are promptly supplied. Price $1.00 and your money back if it isn't the best liniment you ever used.



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THE GREAT AND GROWING SEMI-MONTHLY

NORTHWESTERN AGRICULTURIST

Minneapolis, Minnesota Chicago, Illinois

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We want 100,000 circulation for **The Northwestern Agriculturist** and will pay you to aid us in getting it **before New Years, 1903.** That means 25,000 new subscriptions. Here is our offer (not good after January 1, 1903): **Send us 15 cents** in silver and promise to sign, address and mail three (3) postal cards for us, to farmers who, you know, **ought** to take such a standard farm paper, and we will send you **The Northwestern Agriculturist** a whole year. **Or send us 25 cents** in silver and agree to address five (5) such postal cards to farmers and we will send you **The Northwestern Agriculturist** for two years. Your subscription will begin as soon as you send us the names; we shall not wait until you have mailed the postals to your friends. We will furnish you the postal cards free by next mail after we receive your subscription. The cards will contain ready-printed message which you can sign as your personal recommendation to your friends, urging them to subscribe. That is all there is to our plan, but the secret is that we know that with your neighbor or friend, a recommendation **from you,** a farmer, to take **The Northwestern Agriculturist** will usually result in our receiving the subscription. We want you first to read **The Northwestern Agriculturist** and be able sincerely to sign that recommendation. We shall authorize you to tell your friends that if they will enclose your postal card with their subscription before January 31, 1903, we will accept 30 cents silver and the postal card as full pay (regular price 50 cents) for the year's subscription, or we will accept 50 cents and one postal card as full pay (regular price $1.00) for two years' subscription. Your postal card, therefore, will be worth to your friends either 20 cents or 50 cents, according to their choice. Only one such card, however, will be accepted from any one subscriber, and only when accompanied with the cash. We simply want you to aid us with your friendly influence to introduce the paper to your friends. If then they do not see fit to subscribe we will thank you just the same, and by doing us this favor you will get your own subscription for 1903 for fifteen (15) cents instead of fifty (50) cents, the regular price.

PRESENTS FOR YOU

If one such postal card signed by you comes to us with your friend's subscription before January 31st, 1903, we will send you a nice present. If two of your cards bring us resulting subscriptions we will send you a still costlier present, and if all of your postal cards bring us returns we will remember you proportionately. All of these presents will be mailed between February 1st and February 5th, 1903. This will be a special inducement for you to be careful to select persons who really ought to subscribe and then, if convenient, you can supplement the regular cards with any special personal urging you see fit, so that you will get your present and we will get the subscriptions. We have additional inducements for you if you can get more than the above mentioned number of subscribers for us. When you send in your 15 or 25 cents for your own subscription, we will write you details.

5000 MEN AND WOMEN ARE WANTED to represent **The Northwestern Agriculturist** in the Central States. We start you in business, pay liberally for work, protect your territory. Pleasing, dignified and agreeable employment. Write us for particulars.

OUR EDITORIAL STAFF is made up of practical experienced **Specialists** in each department, who have actually demonstrated their knowledge and fitness for the position by having made a **success** in that line of work on their own farms. We employ no mere theorists, but only men and women of **recognized ability.**

WE GUARANTEE the integrity and **honesty** of all **advertisements** admitted to our columns. This means that if ever a subscriber is cheated by one of our advertisers we will pay the loss and then prosecute the advertiser. This paper is a vigorous **defender** of subscribers' **interests.** We have no mercy on Fakes or Frauds.

Northwestern Agriculturist, Room K19, Security Building, Chicago, Illinois

Please mention Bee Journal when writing.

fixed a place in the cellar for them, by building a scaffold about five feet high under a part of the house, where there would be fire kept during the winter.

I placed the 29 colonies on this scaffold about the middle of November, with plenty of honey. The hives were dry, and I thought I had them fixed in good shape for wintering, as there would be a fire about three feet above them, and the cellar was arranged so I could ventilate it when I wished to.

The bees were quite noisy the latter part of the winter, and I took them out in March and found 15 colonies were dead. I saw why it was. I had left on the honey-board, which held the dampness in the hives, and the combs had molded.

I bought 11 colonies more and started in the spring of 1899 with 25 colonies; they increased during the summer by natural swarming to 40. I thought I would try the cellar again for wintering, and fixed a room in one corner, 10 by 12 feet, by putting up a board partition. This room was under a part of the house where there was no fire kept, and as I wanted to keep the room dark, I had no windows in it. I placed some sticks on the cellar bottom, about two inches thick, to set the hives on. I took off the honey-boards and put on supers with a piece of burlap in the bottoms, and then filled them with planer-shavings and dry corn cobs, about two-thirds of the former and one-third of the latter.

I put the bees into the cellar about the middle of November, one hive above the other, four tiers deep, with an arrangement for ventilating. They were quiet during the winter, and I took them out the first part of April, 1900—40 colonies, all of which were in fine condition. Since then I have kept my bees in the same room during the winter, and have packed them in the same way, with less than 2 percent loss. I lost only one colony that had honey enough to winter. They were in a box-hive, and I think had no queen. The others were late swarms that had but very little honey. I fed them in October by giving them supers partly filled with comb honey, but I did not uncap it, and when I packed them for winter, in November, I found they had not carried it below. Since then, when I have fed honey in the combs, I have uncapped it, and they lose no time in taking care of it.

My experience leads me to believe that if a cellar is kept as it should be, without decaying fruit or vegetables, it would not be necessary to ventilate it for bees. Keep them in a dark room, where they will not be disturbed, packed with something that will absorb the moisture they generate, and they will be all right. I think that dry, rotten wood in place of corn-cobs would be just as good, and may be better. GEORGE BROWN.

Chickasaw Co., Iowa, Nov. 3.

Among the Oldest.

I am, I think, among the oldest apiarists. For 60 years I have never been without some colonies of bees, and now have only 73. The past season was a very bad one. C. ERB.

Clarke Co., Va., Nov. 8.

A Far Western Apiary.

This (Wahkiakum) county is about 25 miles from Cape Hancock, the most westerly point in the United States, and I think the most rainy, too. So you will know that it is not a good country for bee-keeping, yet I have 41 colonies and get some honey. A good many keep a few colonies of bees, but in a slovenly way. O. R. RICE.

Wahkiakum Co., Wash., Nov. 1.

A Peculiar Season.

This has been a very peculiar season in this locality. Bees have not done very much in the way of storing surplus honey. While there was plenty of white clover at the beginning of the season it was too wet most of the time for the bees to work. Some colonies

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

Discounts for Early Orders.

On all cash orders received before Jan. 1, 1903, we will allow you a discount of 4 percent; before April 1st, 2 percent. Send us a list of the goods you want and we will quote prices by return mail.

G. B. LEWIS CO.,

Manufacturers of Bee-Keepers' Supplies, WATERTOWN, WIS., U. S. A.

Reduced Rate for Christmas and New Year Holidays.

The Nickel Plate Road will sell tickets Dec. 24, 25 and 31, 1902, and Jan. 1, 1903, at rate of a fare and a third for the round-trip, to any point located in Central Passenger Association territory, good returning to and including Jan. 2, 1903. Pullman service on all trains. Individual Club Meals, ranging in price from 35c to $1.00, served in dining-cars. Address John Y. Calahan, General Agent, 113 Adams St., Chicago, for particulars. Chicago city ticket office, 111 Adams St.; Depot, Harrison St. and 5th Ave. 65-47A5t

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.20	2.30	5.50	10.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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"What Happened to Ted"

BY ISABELLE HORTON.

This is a true story of the poor and unfortunate in city life. Miss Horton, the author, is a deaconess whose experiences among the city poverty stricken are both interesting and sad. This particular short story—60 pages, 5x6¾ inches, bound in paper cover—gives somewhat of an insight into a little of the hard lot of the poor. Price, postpaid, only 10 cents (stamps or silver.) Address,

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27 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 27 cents a pound—CASH—for best yellow, upon its receipt, or 29 cents in trade. Impure wax not taken at any price.

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1-lb. sq. Standard, with cork, gr.,	$4.75	1-lb. sq. Standard, spring top, gr.,	$5.50
½ " " " " "	3 75	1-lb. Keystone, spring top, gross,	5.25
5-oz. " " " "	3.00	1-lb. Octagon, spring top, gross,	5.25
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100 lbs. white sweet-scented clover,	$10	100 lbs. White Dutch,	$20
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Address quickly, HOWARD & CO., 519 Masonic Temple, CHICAGO.

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1-lb Keystone ...Honey-Jars

These are clear flint glass jars holding just one pound, and the shape of a keystone. They are 7⅛ inches high, and very pretty when filled with honey. The corks can be sunk a trifle below the top, and then fill in with beeswax, sealingwax or paraffin. We can furnish them in single gross lots, with corks, f.o.b. Chicago, at $3.50; two gross, $3.25 per gross; or five or more gross, at $3.00 a gross. These are the cheapest glass one-pound jars we know anything about. We have only about 20 gross of them left. So speak quick if you want them. Address,

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For a little work you can easily earn watches, clocks, silver, games, books, dolls, knives, guns, cameras, etc. Don't miss our NEW plan and special premium list. Write to-day to— **HOWARD & CO.**

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Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

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at prices that are the lowest. Catalog giving

Full Line of Supplies,

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Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY, Chicago, Ill.

THANKSGIVING DAY EXCURSIONS

at rate of a fare and a third on all trains of the Nickel Plate Road, on Nov. 26 and 27, to points within 150 miles, and good returning to and including Nov. 28. Chicago Depot, Grand Central Station, Harrison St. and Fifth Ave. City Ticket Office, 111 Adams St. 'Phone Central 2057. 59-45A3t

stored about 30 pounds of comb honey, while others did not store any. I have had to feed several colonies to get them in shape for winter; but most of them seem to be in good condition. E. N. EVERSON.

Jefferson Co., Ohio, Nov. 10.

A Good Season.

The honey season this year was a very good one. I got about three tons of comb honey from 100 colonies, and all are in good shape for winter. HARRY H. BUCKMAN.

Bucks Co., Pa., Nov. 10.

Gathering Pollen Late.

I have not seen pollen come in as fast, and as much of it, as to-day, any time during the past summer. I cannot say where the gathering comes from. My bees have not done well this season. C. J. ANDERSON.

Cook Co., Ill., Nov. 12.

BEEDOM BOILED DOWN

When to Make Shaken Swarms.

Some are of the opinion that a colony should not be brushed or shaken before queen-cells are started. In the small Langstroth hives the starting of queen-cells will be a sign that the size of the hive (too small for the development of the colony) has caused the swarming impulse. My large hives give an unlimited space for development, and, consequently, in most years, no queen-cells are started at all; but the colonies are *strong* when the honey-flow commences. If I should wait for starting queen-cells I would not get any brushed swarms nor comb honey.—L. STACHELHAUSEN, in Gleanings in Bee-Culture.

Color of Italian Queens and Drones.

Replying to the question, "What is a pure Italian queen?" the editor of the Australasian Bee-Keeper replies in part:

The purity of a queen can not be told from the drones. Drones vary in color from all black to nearly all yellow, and yet the queen is pure. Drones from Italy-reared queens are mostly black, while American-bred queens produce drones with more yellow. Queens also vary in color from black to yellow. I have bred queens quite black from a queen imported from Italy, whose bees were undoubtedly pure, and the progeny of these black queens as nice, even-colored 3-banded bees as could be obtained. I am aware customers, especially novices, are frequently disappointed when they receive a dark queen from a breeder, hence the tendency to breed queens from light-colored mothers, though better honey-gatherers may be produced if a darker queen-mother were selected.

Phacelia.

This is the honey and forage plant that has so much said in its praise in the German bee-journals. It seems to be little known in this country, although it was introduced from this country into Europe. A letter from assistant agrostologist at Washington, Prof. Ball says:

So far as known there is no species of *Phacelia* which is known to have any forage value in this country, nor have I found a record of any species of this genus being used in Europe.

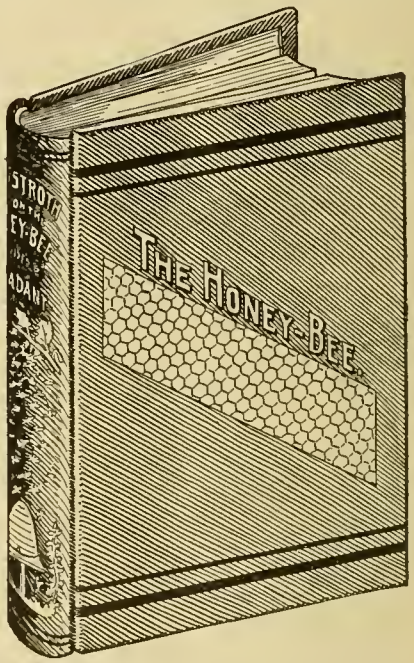
The following in Gleanings in Bee-Culture from Mr. Thos. Wm. Cowan is more encouraging:

I have just returned from British Columbia, and in looking through Gleanings I see that you have had some correspondence about

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.



The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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BINGHAM'S PATENT SMOKERS

24 years the best. Send for Circular.

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WANTED, TO BUY,

50 or 75 colonies of BEES in Florida. Italian or Carniolans preferred. State what you have, kind of bees, hives, and price, with or without top stories. J. ALPAUGH, Galt, Ont., Can.

45Atf Please mention the Bee Journal.

phacelia. I see there is no reply to Dr. Miller's request for information as to the sort of phacelia obtained from California, and grown in Europe as a forage and nectar yielding plants nor has any one from California given any information in answer to your appeal on page 675.

I know thirteen species of phacelia in Western-Middle California, and there are probably several more in other parts of the State, as the genus comprises about fifty species of mostly hardy annual and perennial herbs. Several species are visited by bees; but the one grown in Europe, *phacelia tanacetifolia*, is literally covered with bees from morn till night. This species was introduced into Europe from California in 1832, and is called *tanacetifolia* (tansy-leaved) from the resemblance of its leaves to those of tansy. It is an annual with bluish-pink flowers; racemes spike-formed, elongated, corymbose; height of plant, two feet. It is grown in Europe as a bee-plant for its nectar, and is the only one which produces an appreciable quantity of it. It certainly ought to grow in the North if treated as an annual. The phacelia of the florists in this country is quite different, if I may judge from plants raised from seeds purchased here. This is known to botanists as *Phacelia viscida*, and by some florists it is called *Eutoca viscida*, or *Eutoca viscosa*. The plant is about one foot high, and the flower is deep-blue with a lighter center. This is also a California plant, but I have never come across it in its wild state.

CONVENTION NOTICE.

Chicago - Northwestern. — The executive committee of the Chicago-Northwestern Bee-Keepers' Association have planned to hold the best convention ever convened in Chicago. The date is Dec. 3d and 4th, Wednesday and Thursday. Five eminent bee-keepers have been invited, and are expected to attend. More definite announcement later. Watch for it. Reduced rates on account of the fat stock show, which is held Nov. 29th to Dec. 6th.

HERMAN F. MOORE, Sec.

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We have a small supply of fresh, clean CATNIP SEED on hand, and will mail **free, two ounces** of it, to any present paid-in-advance subscriber of the American Bee Journal for sending us **One New Subscriber** for one year with $1.00.

Two ounces of this seed will give you a good start of one of the best honey-producing plants known. We will also send to the new subscriber on this offer the rest of this year's Journals free. Address,

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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.
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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.
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Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 Illustrations. Bound in cloth. 1902 edition—19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

A B C of Bee-Culture, by A. I. Root.—A cyclopedia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

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Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cents.

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Bienen-Kultur, by Thomas G. Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00.

Dr. Howard's Book on Foul-Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

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Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. 10 cts.

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WANTED WHITE CLOVER EXTRACTED HONEY!
Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.
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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov. 7.—Prices remain steady, but the demand is small. We are not selling the quantity that we have done ordinarily at this season of the year. The advance in price has checked the trade, in addition to which retailers have got the impression that honey is going to be very scarce, and they are not pushing its sale. Fancy white comb brings 15@16c, with travel-stained from one to two cents per pound less; amber honey brings 12@13c, according to style and kind of package. There is very little call for the dark amber and buckwheat grades. Extracted white sells at 7@8c; dark and ambers, 6@7c; Southern is slow at about 5½c. Beeswax sells upon arrival at 30c per pound.
R. A. BURNETT & Co.

ALBANY, N. Y., Nov. 9.—Good demand for honey at former prices. Fancy white comb, 16c; A No. 1, 15@16c; No. 1, 15@15½c; buckwheat, 14@14½c. Extracted, light, 7@7½c; mixed, 6½@7c; buckwheat, 6½c. Beeswax, 30c.
H. R. WRIGHT.

BOSTON, Oct. 20.—Our honey market remains firm, with good demand and fair stocks on hand. Honey is not coming forward as fast as usual, and the tendency of prices is steady. We quote our market as follows: Fancy white 1-pound sections in cartons, 16c; No. 1, 15c; No. 2, very light supply, 14c; glass-front sections generally one cent less than this. Extracted, light amber, 8c; amber, 7½c.
BLAKE, SCOTT & LEE.

KANSAS CITY, Oct. 20.—The receipts of comb and extracted honey are light, and demand steady at quotations: Fancy white comb, 14½@15cc; No. 1 white, 14@14½c; No. 2 white and amber, 13@13½c. White extracted, 7@7½c; amber, 6@6½c. Beeswax, 24@26c.
C. C. CLEMONS & Co.

CINCINNATI, Nov. 8.—There is a good demand for all grades of extracted honey, prices ranging as follows: Amber and Southern in barrels, 5½@6½c; clover and basswood, 7@8c. Fancy comb sells 16@17c. Beeswax, 27c.
THE FRED W. MUTH CO.

NEW YORK, Nov. 8.—Demand for comb honey is good and same finds ready sale at from 15@16c for fancy white, 14c for No. 1 white, 12@13c for No. 2 white, and 12@13c for buckwheat. Extracted in fair demand at 7½c for white, 6½c for light amber, and 6c for dark. Southern in barrels from 60@65c per gallon. Beeswax quiet at from 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Oct. 27.—The demand for comb honey is good and prices are a little better, as the supply does not meet the wants. Extra water-white fancy is selling as high as 16@17c; other grades less, according to quality. Extracted is very active and prices are a little better; amber, 5¼@5½c; alfalfa, 6½@7c; white clover, 7½c. Beeswax, 28c. C. H. W. WEBER.

SAN FRANCISCO, Oct. 15.—White comb honey, 12@12½c; amber, 8@10c; dark, 7@7½c. Extracted, white, 5½@6c; light amber, 5¼@5½c; amber, 5@5¼c Beeswax, good to choice, light, 27@29c; dark, 25@26c.

There are no heavy offerings of any description, either at this center or at producing points. Comb honey is in better spot supply, however, than extracted. Stocks of latter have been greatly reduced by recent shipments outward. Current values are being well maintained.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

Wanted—Extracted HONEY
Mail sample, and state style of package and price delivered in Chicago.
John F. Campbell, 53 River St., Chicago, Ill.
34Atf Mention the American Bee Journal.

WANTED!
Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER,
2146-2148 Central Ave., CINCINNATI, OHIO.
21Atf Mention the American Bee Journal

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Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF

THE W. T. FALCONER MFG. CO.,
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a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)

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Tip-Top Glass Honey-Jars

The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.

If you try them once you will likely use no other kind of top or sealing arrangement for honey jars.

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Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

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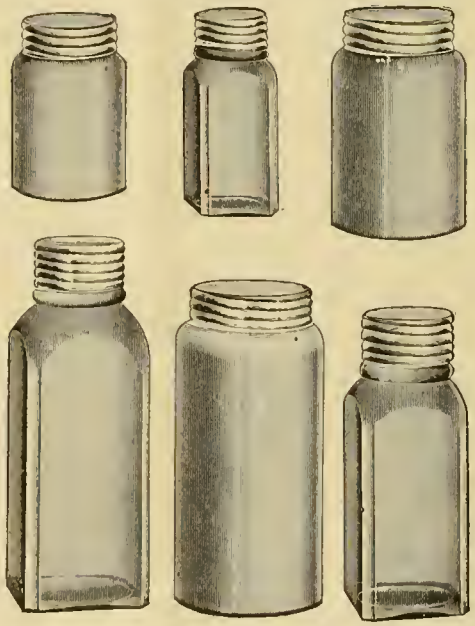

These jars were designed for use in the honey exhibit at the Pan-American Exposition, in Buffalo, and are very neat and attractive. They have cork-lined aluminum caps which seal them tight. If honey is sealed in these jars while hot there will be no annoyance from granulation.

For exhibition purposes and a fancy trade nothing on the market compares with these jars. Put up your honey in a neat, attractive package, and sell it at a good price.

The fact that the molds are constructed for making the jars by hand instead of by machine, and the addition of the aluminum caps, make the jars somewhat more expensive than the ordinary jars. They are made in four sizes square and three sizes round, as shown in the illustration. We can supply them either from Medina or from Philadelphia at the following prices:

¼ pound Square Hershiser Jars, doz., 50c; $5.40 per gross.
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1 pound Square Hershiser Jars, - - - - -	Dozen, 80 cents;	$ 9.00 per gross
2 pound Square Hershiser Jars, - - - - -	Dozen, $1.00;	10.80 per gross
½ pound Round Hershiser Jars, - - - - -	Dozen, 60 cents;	$ 6 60 per gross
1 pound Round Hershiser Jars, - - - - -	Dozen, 75 cents;	8.40 per gross
2 pound Round Hershiser Jars, - - - - -	Dozen, $1.10;	12.00 per gross

These prices, although rather high in comparison with other jars, are as low as can be made on hand-made jars, and afford us a smaller margin of profit than other styles. Order a sample dozen of each size and be convinced.

THE A. I. ROOT CO., Medina, Ohio.

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Chicago-Northwestern Bee-Keepers' Convention, Chicago, Dec. 3-4

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., NOV. 27, 1902.

FORTY-SECOND YEAR
No. 48.

WEEKLY

A BURRO PARTY IN COLORADO.

Mrs. York. Dr. Miller. Miss Wilson. Miss Lloyd. Mr. York.

THE AMERICAN BEE JOURNAL.

PUBLISHED WEEKLY BY

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IMPORTANT NOTICES.

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The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

(THIS CUT IS THE FULL SIZE OF THE KNIFE.)

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The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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IN MAY, 1903

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We wish to make a liberal offer to those of our regular readers whose subscriptions are paid in advance. It is this: We will send you FREE by mail, in May, 1903, an Untested Italian Queen for sending us $1.00 and the name and address of a NEW subscriber to the American Bee Journal for a year. This is indeed a big premium, as the queen alone would cost you 75c.

We are booking orders for Queens now for next May delivery. Will you have one or more? This offer ought to bring in many orders. Our queens are reared by the best queen-breeders, and give satisfaction.

Address,

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., NOV. 27, 1902. No. 48.

Editorial Comments.

The Date of the Ontario Convention, the reports of which are read with much interest by many on this side the line, was set for Dec. 2, 3 and 4. But Dec. 4 is the day to vote on the referendum over there, and the Canadian Bee Journal says :

The temperance cause (of which we are glad to say the majority of the members of the Ontario Bee-Keepers' Association are staunch supporters) requires every man at the polls that day. We must remember that it is not a political question, but a great moral issue that is at stake, the abolition of the drink-traffic. It may be, of course, that Ontario is not yet satisfied that she has sacrificed enough of her children to this demon of strong drink under the guise of "liberty," but there is a great opportunity now offered to have the "accursed" thing removed, and Christian men and women should make the most of it.

So the date of the Ontario convention has been changed to Dec. 16, 17 and 18, so that members may have a chance to vote on prohibition. Good for Kanuck bee-keepers. May they all help to win in the attempt to wipe out the worst foe of mankind.

Old vs. New Combs.—The discussion as to whether bees prefer comb foundation or new combs to those black with age seems to be a perennial one. It seems a little strange that a thing upon which observations can be so easily and so fully made should remain year after year in dispute. Can it be possible that there is such a difference in localities, or in bees, that one man shall find the oldest and blackest of combs preferred, while another shall find them used only as a last resort? While making plans as to the things upon which observations are to be made the coming year, let each one make a minute of this matter, and see if there can not be enough light thrown upon it to settle the question for all time.

Catnip.—Editor Hill, of the American Bee-Keeper, speaks thus of catnip :

"The big catnip balloon seems to have been pierced quite early in its vigorous flight by the snag of personal investigation. It is disappointing to be obliged to pursue old channels in quest of forage so very soon after having our catnip enthusiasm wrought to the extent of ecstatic anticipation ; but it now appears that we shall have to come to it."

From which it may be inferred that Mr. Hill is not intending to plant a hundred acres in catnip, right away. But catnip is a good honey plant, just the same.

Smelter-Smoke and Bees.—At the National convention at Denver, mention was made of loss of bees in the vicinity of smelting works, especially the Salt Lake and Denver smelters, and, in the last Rocky Mountain Bee Journal, C. P. Dadant gives an account of the same thing in the Old World, it being claimed that in the gases set free to float away during the smelting of the ores, there is enough arsenic to poison the bees, analyses of the dead bees having shown traces of arsenic in them, as also in the honey and pollen. The fruit-trees are also injured so that they bear no fruit. May it not be possible that sufficient damage may be done without any arsenic in the case? In the coke regions of Pennsylvania trees are killed where there seems to be nothing but the smoke of the burning coal to injure them. At any rate, the moral is to keep away from such places, and to keep away a good distance, for the smelters kill bees at a range of five miles or more.

Wild Cucumber is quoted in the Bee-Keepers' Review as yielding honey abundantly until the vine is killed by frost. That is by no means the case in northern Illinois, if the plant be the same. It is a thing of great beauty, especially when in full bloom, but it ceases to bloom and dies down long before frost. It has not been noted as a honey-yielder, although proper credit may not have been given to it. Can any one tell what its value is in Illinois and adjoining regions? The illustration of the plant in the Review is from a photograph taken in Nebraska. Does it yield as abundantly in other parts of that State as in the region near Dr. Gandy?

The Double Hive, or what is called in England the Wells system—a hive with two compartments side by side, with a perforated separating wall, allowing the workers, but not the queen, to pass from one side to the other—has now been on trial for several years, and while some speak well of it, the testimony in general has not been such as to warrant its general adoption. One objection is, that when the colony on one side swarms, the colony on the other side is excited to swarming, whatever its condition may be. Another objection is, that when one side becomes queenless it is likely to remain so, the presence of a queen on the other side preventing the bees from feeling their queenlessness sufficiently to rear a new queen.

Anticipatory Swarming, by means of shaking or brushing, will be a boon to some who have run out-apiaries, and have keenly desired some way by which the necessity for keeping a watcher constantly at each apiary might be avoided. Of course, the depletion of a colony by taking away brood that would in a short time swell the host of gatherers is a thing not to be desired, but that is not so bad as losing the same amount of brood and a lot of bees besides in natural swarming.

The greatest gain, however, will probably be counted by most to consist in the fact that by shaking swarms the bee-keeper is made master of the situation, having the time of swarming come at his calling, and not at the whim of the bees. Add to this the advantage over foul brood obtained, and it will be seen that this system of management

is one of immense advance. Indeed, where foul brood prevails, nothing more need be desired, although elsewhere bee-keepers will still sigh for a plan that will leave a colony undisturbed in possession of all its brood and bees throughout the whole season.

Twelve-Frame Hives are having something of a boom in Canada. R. F. Holtermann speaks highly in favor of them in the Canadian Bee Journal, saying that the Bow Park Co., with which he is connected, are ordering 400 of them, and others are adopting them. A foot-note says:

Since Mr. Holtermann wrote the above he has returned from extracting buckwheat honey at an out-apiary of 81 colonies, and reports that while the bee-keepers in the vicinity secured practically no surplus buckwheat honey, his bees secured over 3000 pounds of surplus. This speaks well for the large hives.

The Weekly Budget.

THE CHICAGO-NORTHWESTERN CONVENTION—Wednesday and Thursday, Dec. 3 and 4—will be held in the Briggs House, Chicago, corner Randolph St. and Fifth Ave. It looks now as if it would be larger and better than the Denver convention was. Still, it may not be quite equal to it. But let all come who can do so. Low rates at that time on all railroads centering in Chicago, on account of the International Live Stock Exposition which is to be held here the same week. So there will be at least two "big shows" in Chicago at the same time. But this windy old city is big enough to have a number of shows going on all at once.

THE APIARY OF MR. N. NIELSON appears below. He has this to say of himself and his bee-keeping experience:

I moved to this place 24 years ago, and there had never been a plow or anything else here before I came. Everything that is here I put here; it cost me $10 an acre, and it would sell to-day for $100 an acre, if it was for sale.

Eight years ago I had an attack of spinal meningitis, and have not been able to stand the heat of the sun since that time, so I have adopted the bee-business for the heat of the summer.

The season of 1901 was not a very good season for honey with us, as it was too dry. I had about 1400 pounds from 45 colonies: my extracted honey sold for 12½ cents a pound, and the comb for 15 to 18 cents a pound.

The picture was taken on a cold morning, as the photographer said he would not take the picture if there were any bees flying.

I have not had swarms this season so far (June 18) that I know of. I used to clip my queens, and intended to do so last spring, but I did not get at it in time. Losing my wife last fall left me with everything to look after, as she used to help considerably about the bees. There are five children and myself in the family.

My hives are facing the east. There is a small building in front of the bees used as an extracting-house; it is 14x16 feet. I have a solar wax-extractor on the east side of the door.

I think I have said all there is to be said of much interest, except to say the bees have paid me well so far.

N. NIELSON.

APIARY OF N. NIELSON, OF SAC CO., IOWA.

DENVER CONVENTION NOTES.—On page 677 we gave the last of our notes by the way, while on our Denver trip, describing Pike's Peak and Manitou. That trip was taken on Monday forenoon, Sept. 8. In the afternoon our party took a carriage drive through the Garden of the Gods, as it is called. This garden is filled with stone or rock images that one can imagine are gods, such as the ancients may have worshipped. In many instances, however, one's imagination must be very active and elastic in order to see all that the knowing driver explains. But it was a delightful drive of four or five hours. There were seven of our party on this drive, Mr. J. W. Lloyd, wife and daughter, having joined us, or, perhaps, we would better say, that our party of four joined them, as they had been in Manitou for a week or more before we arrived.

On Tuesday morning our party (increased to five by the addition of Miss Lloyd), started for South Cheyenne Canyon. Here was where we all mounted the snail-like burros, and wended our way up the trail of the Canyon. The picture on the first page shows how our party appeared that beautiful September morning.

We must confess that we are unable to do justice to a description of South Cheyenne Canyon, so we will make an extract from a publication which tells something of the beauties of the natural scenery that we were permitted to enjoy on that occasion:

CHEYENNE CANYON.

Oh, Cheyenne Canyon! in thy dim defiles,
Where glooms the light, as through cathedral aisles,
Where flash and fall bright waters, pure as air,
Where wild birds brood, wild blossoms bloom, and where
The winds sing anthems through the darkening trees,
A presence breathes the tenderest melodies.

—STANLEY WOOD.

A half hour's ride from Colorado Springs brings you to the entrance of the canyon. The road leads most of the way by the side of a beautiful stream thickly fringed with willows and cottonwoods. As the approach to the canyon is neared these give way to a sturdier growth of spruce and pine, while underneath is a dense thicket of scrub-oak, hemming in the road on all sides, and, in the summer months, completely shrouding the low foot-hills in their dark, green foliage.

The winding road, all the while closely following the curves of the stream, finally emerges from this labyrinth of trees and enters into the canyon proper, and here is unfolded to your view a panorama worthy of the artist's pencil or the painter's brush.

Before you is a great cleft in the granite mountain, as though some mighty hand had split and wedged it apart that one might enter and behold the wondrous works of Time within. To the right is a massive granite shaft tow-

ering almost to the sky. "Eagle Cliff" it is called, because our glorious American bird has chosen it as a fit place to build its home. Just before you is another giant, "Mount Cutler," equally grand and impressive, and clinging from its side, half way to its summit, and standing out in bold relief against the sky, are the "Vacant Chair" and the "Hindoo Baby," each curiously-suggestive rock formations.

But pass through the gate with me.

Before us are two tremendous cliffs "The Pillars of Hercules." They seem to stand squarely across the canyon, completely filling it and demanding a halt. The way seems barred, and the stranger is at a loss to know which way to go, but the brook has found a way, and so must we. Here is a most wonderful demonstration of the action of the water. For hundreds of feet the canyon at this point has been worn through the solid granite. On either side are perpendicular walls, nearly a thousand feet high, and at one place but 40 feet apart, barely giving room for the creek and roadway between them. Indeed, the whole space was originally occupied by the stream, which had to be crowded from its bed.

A short distance beyond the "Pillars of Hercules," on the left, is Observatory Point. This is one of the objective points of the burro brigades, which leaves the terminus of the electric car-line at the entrance of the canyon.

After proceeding through the ever-changing scenes in the canyon, we come to a place opposite Prospect Dome. This is a graceful, symmetrical pinnacle of granite, more than 300 feet in height. It stands alone in one of the side canyons like a watch-tower of the god of war, its base wrapped in a great cloak of dark, sombre evergreen. At this place the burro trail leaves the canyon and winds its way through a thickly wooded gulch to Point Lookout and the top of the Seven Falls, and from thence to Observatory Point, by whose base we have just come. The view from this point is unsurpassed. At our feet is the canyon with its mass of rended and shattered cliffs, and the stream, resembling a mere ribbon of light, entwined among the trees far beneath. Over and beyond the rugged walls, and just without the break of the foothills, lies Colorado Springs—an emerald checker-board midway in the picture. Far beyond are the great plains, rolling away like the waves of the ocean, to meet the sky. As we turn to the west the eye is dazzled with the unbroken grandeur of the mountains as they stretch away, tier upon tier, till they meet the blue horizon miles in the distance.

But let us return to the canyon. A short distance above Prospect Dome and we come to the foot of the Seven Falls, where Nature out-does herself in a grand display of mighty cliffs and rushing waters. Here the canyon proper ends in a colossal amphitheater, down one side of which plunges the foaming torrent in seven distinct leaps from a perpendicular height of 234 feet.

Until a few years ago our journey must have ended here, but modern enterprise has overcome the difficulty by the construction of a safe and easy stairway on the face of the wall to its top, so that now we may ascend and enjoy the beauties beyond.

Overlooking the falls, and towering far above them, is Far View Observatory, from the top of which a splendid view may be had of the falls and the canyon, and also through the entrance of the canyon out on to the plains for a hundred miles or more.

Just above the Seven Falls is the junction of the two branches of the stream. The west branch, formed by the melting snows of Mount Rosa, flows through Arapahoe Pass, itself a beautiful canyon, over logs and boulders, under mossy banks, giant rocks and waving bushes, past natural flower gardens, green meadows and thick forests, where bloom in wild charm and fragrance the columbine (the State flower), blue, white, and yellow; the tiger-lily, nursed and petted in the East; the primrose, flower of the night; lady-slippers, shooting-stars, buttercups, daisies and violets. Here, also, in their respective seasons, are wild raspberries, strawberries, thimbleberries, gooseberries, currants and cherries, and many other fruits and flowers which only attain their greatest beauty and charm in the wild and unkempt thickets where Nature plants and cultivates in her own inimitable way. Here, too, we may find ferns of many varieties, and some that are found in no other canyon in the vicinity.

We stroll up along the left or south branch of the stream for a quarter of a mile through a beautiful grove of aspens and majestic pines, and among great granite boulders, to the foot of Boulder Point, where we commence the ascent of Midnight Falls, one of the most beautiful in the canyon. It is surrounded by alders, willows and birch and giant firs, pines and spruce, which, even at noon, almost exclude the sun's rays, and always make a cool and quiet retreat.

Just above the Midnight Falls, and along the west base of Boulder Point, are Granite Rapids, where, for 100 feet, the water rushes through a narrow trough in the solid flint-like granite cut by the ceaseless wearing of the never-tiring little brook, as it has, for ages, rushed downward to the greater leap below. A few more steps bring us to the Silvery Juanita Falls, where the water for 50 feet rolls and rushes over the cliffs, breaking into silvery spray and sparkling in the sunlight, plunging at last into a beautiful, crystal pool, clear as air, with a pebbly bottom, and surrounded by magnificent, stately balsams, firs and spruce. Here is the place to sit for hours, communing with the brook, forgetting all care, and even the world outside with its hurry and noise, uninterrupted unless by some squirrel or bird.

It is practically the universal verdict of visitors to South Cheyenne Canyon, that there is no place accessible to tourists, and of the same extent, which surpasses it in scenic attractions, and few that compare with it, not excepting the Yosemite Valley or the Alpine Gorges. The entire canyon, from the entrance to Juanita Falls—a distance of a mile and a half—presents a succession of the grandest views to be imagined; while the beautiful brook of crystal water, a flora unsurpassed in variety and beauty, and the finest falls in Colorado add to its surpassing attractions.

We do not think the foregoing description is very much overdrawn. It is truly an Eden of beauty, and some day, if ever we can get to Colorado Springs again, we want to repeat the trip to South Cheyenne Canyon, burro ride and all. But Mrs. York was the only one of the party that didn't enjoy the burro method of travelling. Next time she will ask to be excused, though, if we do say it, she looks "as fine as a peach," perched up on her burro.

By the way, the name of Mrs. York's burro was "Satan." He looks like him, doesn't he? But Mrs. York could hold him down all right, that is, if 150 pounds (pure-gold weight and value) could hold down a couple hundred pounds of "Satan."

THE MINNESOTA CONVENTION of bee-keepers will meet Wednesday and Thursday, Dec. 3 and 4, 1902, at Minneapolis, in Plymouth Church, corner Eighth St. and Nicollet Ave. Among the good things on the program are these:

Song—"The Honeysuckle and the Bee"—Miss Edith Dexter.

"Something of Benefit to Beginners in Bee-Keeping"—A. E. Hooker.

"Some of My Experience in Keeping Bees in Minnesota"—Wm. Cairncross.

"Disposing of Our Crop of Honey to the Best Advantage"—S. Lindersmith.

"Bees on a Poultry Farm"—Victor D. Caneday.

"Honey Exhibits"—Walter R. Ansell.

Address by Superintendent Gordon on the honey exhibit at the Minnesota State Fair.

"Bees on the Farm"—Mrs. D. C. Hazleton.

"Use and Abuse of the Honey-Bee"—Frank Yahnke.

Address by G. L. Dingman, State Dairy and Food Commissioner.

The program says: "Please do not forget to buy your tickets for the Horticultural meeting, and take certificates for them to get reduced railroad rate."

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

Convention Proceedings.

THE DENVER CONVENTION.

Report of the Proceedings of the 33d Annual Convention of the National Bee-Keepers' Association, held in Denver, Col., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 742.)

Pres. Hutchinson next called on Mr. R. C. Aikin, of Colorado, to read his paper on

PUTTING UP EXTRACTED HONEY FOR THE RETAIL TRADE.

With many this is a burning question. For several years there has been a subdued and smoldering fire going, sometimes a good-sized smoke and considerable darkness, now and then enough light to let us see what the smoke was about. Well, I think there have been some of the brethren around poking the fire to make the blaze shoot up on high so that those at a distance could see, and I have a suspicion that that Irish mud-and-stone man from Toledo, Ohio, assisted by that other Irishman from Flint, Mich., has been putting up a job on me. Just think of it, after all the rumpus I have had with the Ohio Fowls and others, then, to cap the climax, ask me to treat this subject before this body of the wit and wisdom of the land, and me to prepare in advance what I have to say, and send a sample of the whole thing to that Chicago Irishman, so he could come prepared to lick me! But, brethren and sisters, I am still on the "ridge pole," and just as happy as an owl, and I will bet that I can fight just as long in this high altitude as all three of the other Irishmen. So up go my sleeves, and now watch the sparks fly.

You want to know how to put up extracted honey for retail, do you? Well, ask "Yorrick," he will tell you to find the "Root" of the matter in his catalog printed down at Medina, and when you have found that the price of one-pound glass jars is *almost* 4 cents each at New York, Philadelphia and Cincinnati, and even 4 cents each at Indianapolis, just send in an order and put your honey up in these. "Jones pays the freight" on these jars, and stands breakage; of course the supply dealer could not possibly do it!

You see that your honey is thoroughly liquid—if any granules, melt them; and as the wholesale price of extracted honey delivered in Chicago is 5 to 6 cents—call it 6—then deduct ¾ of a cent a pound for freights (that's the car-rate to Chicago), and another ¼ for cans in which to ship it, then a 5 percent commission, which is three-tenths of a cent, then allow two-tenths of a cent more for freights on the package (cans and boxes) and for postage, collections, etc., and you have just 4 cents left as the worth of your honey.

We mean that when honey delivered from Denver to Chicago brings 6 cents there in car-lots it is worth 4 cents at your honey-house. Put the 4-cent honey in the 4-cent jar, then add one cent for the freights you paid on the jar, and one cent more for your trouble in filling and boxing these jars ready for shipment, and you have a net price of 10 cents as the cost of your honey ready for the railroad—4 cents for honey and 6 cents for the other things.

Let me tell a little story. Once on a time there was a great hooting by one of the big owls down East, just to scare some of the other tribes out West. Well, I just thought I would try an experiment and see if high-priced, glass-packed honey in the lower altitudes was a myth or not, so I sent some honey into—well, away beyond Chicago—with instructions for the receiver, who was an honest man, to sell it, and after paying himself, and freights, etc., to send me the balance; and, sir, not one cent came back!

If you live near a big city, and have wealthy and stylish customers who do not care for price, so the honey looks nice through clear glass, and costs more than common people pay for it, pack it in glass every time, and stick on the price. I have figured it was worth at your honey-house in those jars 10 cents each. You are catering to the users of luxuries, and as luxuries do not sell so well because the consumers of them have other luxuries of many kinds, and are a set of dyspeptics, and eat very lightly at best, and because luxuries are always uncertain of sale and subject to fluctuations, you ought to and must have a good commission to pay for insurance, taxes, and your own trouble and risks. You should add about 40 percent for *your* profits, another 40 for the retailer and others, and say 20 percent for the railroads and carriers. This will make the honey sell at 20 cents a pound and upward. This is for the small percent of the very wealthy who do not eat much honey, because they have so very many other good things.

If you have to sell to people like yourself, who have to work on from $200 to $600 salaries, and economize very closely to make ends meet, they can not and will not pay 15 cents for glass and things to get 5 cents worth of eating; and for that trade you must put up your honey so as to get it to them with the least possible expense for fancy wrappings; they want something to put to their ribs and to keep the babies from actual starvation. This is the big—let us spell that with capital B, I, and G—class of consumers. Put their honey into common lard-pails, wooden or pasteboard boxes, paper bags or some other cheap package that will get the goods there cheaply, yet neat and clean. If you want to sell lots of honey at retail, just cater to this trade, and you will enter a field that is as wide as the commercial world, few competitors, and a vast horde of hungry mouths. Do not go on trying to feed and stuff the wealthy who are already too full, but reach out to the middle and lower classes, who must, of necessity, look twice and think many times before buying a useless and expensive piece of glassware to get a little sweet.

Not one in a hundred have any use for the glass bottle after the honey is out of it. Some tell us these packages are valuable after the honey is out of them, but I tell you that very few of those who do and who *ought* to consume honey—such as the very wealthy in brown-stone fronts, and the laborers who have not a fruit-tree to their name—would or could use empty honey-jars, so that argument does not "go" where proper intelligence prevails.

Then, too, honey in glass is and must be fancy; it won't hold its place unless it is. It must be put up so that it will remain liquid and clear, which means an expensive bottling plant such as the ordinary bee-keeper can not have. Or, in lieu of this, the goods must not get beyond the immediate neighborhood of the producer or packer, for he must exchange or reliquefy when it candies or gets cloudy. The great producing districts are altogether too far from the consumer for this taking-back method, and even if close it is a very unsatisfactory and expensive plan, and can not prove practical with one producer in a hundred; for general results it is a mere makeshift.

I do not deny that there is a demand for fancy goods put up in fancy style. Such have a place; but that such is practical for the average producer, and for the wholesale producer in the average locality, I do most emphatically deny. Give me 100,000 pounds of No. 1 extracted honey to pack in lard-pails before it has had time to candy the first time, and I will guarantee to sell it within a year and get better prices than can be had for the same honey in 5-gallon cans, and better prices than can be had for the same in glass, outside of the limited, fancy city trade. When I say better prices, remember that I do not mean that the gross price will be more, but I do mean that the producer will *net* more out of his crop. I also mean that the goods will reach a field that is neglected, and where it will do the most good to suffering humanity.

But some honeys will not candy freely and quickly, which is the misfortune of those who have such; it won't be long until many will be hunting methods by which to cause rapid and complete candying, which probably will not be a serious problem. We want the honey to candy quickly and solidly, be packed right into the retail package from the settling-tank, and the package to be the very cheapest that will successfully carry the goods to the consumer at a minimum of cost. At the present time lard-pails and paper-bags are the most feasible thing available until something better is invented. This may seem strange to many, but the proof is in the eating of the pudding, and I have partaken thereof. To get into the forefront of the battle is to be a target for the bullets of the enemy, but it is good for the cause. Every good thing has to run the gauntlet of criticism and meet with opposition, and the lard-pail-paper-bag-candied-honey scheme is, and will be no exception to the good, old rule.

In short, extract your honey into the big—yes BIG—honey-settling tank, from the tank draw into nothing more

expensive than tin, that which will candy into pails, and that which will not candy into sealing packages, and then put it into the hands of the retailer, and it is bound to sell. Every package must have printed instructions for liquefying, and the producer's or packer's guaranty; put out nothing of which you are ashamed or unwilling to back up.

Now, brethren, pile on a few more sticks to the burning; let us have a big fire, and warm up to the subject; hew to the line and make the chips fly. R. C. AIKIN.

Pres. Hutchinson—We have had a most excellent paper on a very practical subject, and of course it will give us something to discuss; but before we take up the general discussion we would like to hear from the gentleman who is on the program to respond—Mr. York.

Mr. York—I would like to have you keep one eye on this glass jar of liquid honey which I hold in my hand, and the other eye on me and on the paper while I read.

PUTTING UP EXTRACTED HONEY FOR THE RETAIL TRADE.

My good friend who has just preceded me seems to be "Aikin" to see a big fire and lots of smoke. If he'll just wait until he leaves this world (or, maybe before this hour passes,) he may *see* and *feel* more fire and hotness than he wants. But doesn't he know that so much fire might *liquefy* his granulated honey, that he has been trying to get you all to believe is the only form in which extracted honey should be put upon the market?

Then, the idea of calling three of us members *Irishmen*, when there isn't a drop of Irish blood or blarney in any of us—except it be *Dr. Mason!* And he hasn't any more than *two* drops! Why, a man that will publicly cast reflections upon fairly respectable people, and misjudge them, surely can not be in a proper frame of mind or brain to discuss this momentous subject before such a select audience as we have here to-day.,

But my "Aikin" friend is not what I'm to talk about, even if he is an interesting subject, so I'll dismiss all further thought of *him* for a little while, and tackle his subject.

In the first place, I don't believe in starting out to feed all creation with honey. And almost making them a present of it, besides. What costs practically nothing is valued at just about as much as it costs. If all were to *granulate* their extracted honey and offer it at from 8 to 10 cents a pound, there wouldn't be more than a few grains per capita for all the Irishmen alone—that is, if you would call everybody an Irishman, as Mr. Aikin seems to do. And, the next thing, the price would be raised, because of the scarcity of the sweet article itself.

Honey is different from most other table articles. It is a necessary delicacy, not to be eaten as you do potatoes, soup, and corn-meal mush. A little of it at a meal—like butter—is all any reasonable person should want, unless he eats with a shovel, when, of course, he must have *granulated* honey. I will admit that such honey can be shoveled in faster than if it were in the liquid form.

But when I put *extracted* honey on the market I don't want to have to spend valuable time in telling people that it isn't sugar, or lard, or grained goose-grease. Every one knows, if he knows even a little bit, that all *honey* is in the liquid form when taken from the hive. Then why not pass it on to the crowd in its original, sparkling form, and not try to tell them how to liquefy it the first thing?

Again, honey is a tempting thing when it glistens through clear flint glass. What is 18 or 20 cents for a pound of such concentrated sweetness? Why, there are a good many people that will blow in 10 cents for a cigar and then blow it all out again in smoke. Two useless blows for a dime. And if the cigar blower is a big "blow" himself, you have three blows all in one, and all for 10 cents! Now, think of the pleasure and strength to be derived from the price of *two* such cigars invested in a pound of honey! Who would forego it if he only knew how good it is in the liquid form on bread, biscuit or flapjacks. And the people are learning every day that honey is a fine thing to eat—and not to be stored out of sight in tin, wood or paper-bags in the granulated form.

Now, perhaps, I have said enough on this part of the subject, so I will further consider the best packages to use for the retail trade.

I'm a defender of glass packages for the retail trade. As in a few other things connected with bee-keeping, localities differ, but in the majority of the retail stores glass jars holding ¾ or 1 pound each are the preferred sizes, retailing at 15 and 20 cents respectively. In a country trade, when selling from house to house, the quart and pint Mason jars are best, or tin pails of various sizes. But it is utterly useless to talk of large glass or tin packages for the ordinary city retail trade to be handled by the grocers. And that is where the bulk of the surplus crop of the best extracted honey will eventually find the greatest demand—on the tables of the city people.

There is no need of bee-keepers trying to compete with cheap and adulterated table syrups or mixtures that are found in nearly every open market. What they should do is to produce only the finest honey, put it up in convenient packages for home consumption, and then go out after the people. I know men who are working on this plan, and their trade is constantly gaining in volume, and in satisfied customers.

We must remember that Mr. Aikin is a *producer*, and his little crop of honey, or what he handles, is scarcely a spoonful compared with the aggregate product of honey of the whole country. What he has said may do in *his locality*, and in *his hands*, but don't any of you ever go to any large city and try to put his methods into practice. If you do you will regret it. You can't succeed. Life is too short. You'll be gray-headed, or bald-headed, long before you can work up a paying trade.

Perhaps I have said enough for now, especially for a small man, and so far away from home. If I have helped to fan the blue blaze I trust there will be plenty to blaze away. It is one of the liveliest topics before this convention. The bulk of the honey put upon the market to-day is *extracted honey*. And I am glad of it. What *you* want to know is the best and most profitable way of getting it all on the tables of the people. You don't need to care whether the poorest people get it. You are not in the bee-business for your health alone. Some of you are making your living at bee-keeping, even if not a fortune besides. What you want to know is, how to realize the largest proceeds from the sweet product of your apiaries. But you can't all go into the retail honey-business. Such being the case, you should get in touch with those who are putting up honey for retailers, and see that they handle *your* honey. But you must produce a fine, thick, well-ripened article.

Well, I was going to stop before this. I will do so now. But be sure to make the fire that follows so fearfully hot that Mr. Aikin's granulated honey will be liquefied so that even "spoony" people can get it down without pick, shovel, and elbow-grease.

Now chip away, and see a glorious blaze!

GEORGE W. YORK.

Pres. Hutchinson—You have a burning subject, now fire away at it.

F. H. C. Krueger—I don't want to have anything to do with this fight—I just want to tell my experience, that is all. I have been in the bee-business for nearly 45 years; I have made it a point to produce nothing but extracted honey, and I never had any trouble in the world to sell it. I always had less honey than I could sell. My first experience was in Kentucky. Of course, the prices were magnificent; I sold my extracted honey by the barrel, wholesale, at 18 and 20 cents a pound.

Pres. Hutchinson—The question is, as to the best way of putting up honey for the retail trade. How did you put it up yourself for the retail trade?

Mr. Krueger—At that time what I didn't put up in barrels I put up in 2-pound glasses, which I shipped to consumers and grocerymen in the different cities, and the bulk I sold by the barrel. I came to Colorado, and when I extracted my honey first it was a drug on the market. Why? I put it up in pound glasses and 2-pound glasses, and carried it around in Denver. Of course, I sold it all, but it was a great deal of trouble to me. At the present time, as I put it up, the smallest amount I sell is a Mason jar—three pounds—the next is a half-gallon tin-pail, and the third is a gallon pail, and the fourth is 75 pounds in a big, round 5-galion can. I fill it up with from 75 to 76 pounds, and I have no trouble in selling it. I want to say this, if people know that you give them a good article you will have no trouble to sell it.

First, when I went around and sold my honey in one and two pounds, it looked like clear and nice honey, just exactly like that looks, and the people said it looks too nice, it must be adulterated. I said to them, "I give you this; you can taste it, and if you afterwards think it is adulterated I will give you another one for a present." I never had to give one away; they always wanted some more. But that was too much trouble, so I put it up in half-gallons and

two-gallons. I have now in my possession letters showing that I could sell over 1500 pounds in Denver to my consumers. The only principle is to deal honestly with the people, and give them a good article, and then try to get as many consumers as you can. That is my experience, and I make the most money in that way. Although some of the bee-keepers here in Denver tell me, "Well, Mr. Krueger, you will have to produce comb honey," I never expect to do so; still, I would not say I may not have to do it by-and-by. I sell some to the grocery people here in Denver. I saw they had honey on the shelves which was adulterated, in nice, white-glass jars, and one of them told me, "I have lost every customer; they don't want to buy that stuff." I said, "Here is a 5-gallon can; put it up to suit yourself;" and to-day he tells me he has all his customers back.

I believe we should try to sell it in as large a pail as we can, and sell it to the grocerymen and the home trade. I sold one company about 2500 pounds, and another company 2000 pounds.

Mr. Lovesy—I have introduced on our market a glass jar, but it is a quart jar; I call it a family package. When I commenced to introduce the package on the market in Salt Lake City people told me I couldn't sell it; they wanted those little jelly glasses, and if I had anything larger than that they wanted this size jar—quart Mason. I said I was going to put the quart jar on the market. It was the store-keepers who didn't want it, but I finally got it introduced, and now where I sell one dozen of the small I sell 30 dozen of the quart jars. I sell them for 27½ cents a jar, and they retail for 35 cents; they get more honey for their money, they get 3 pounds of honey, and the jar for a nickel. The package helps to sell the honey; the jar is in demand all over the United States—the Mason quart jar—and the consequence is, sometimes I retail 1000 to 1200 pounds of honey by the dozen in Salt Lake City in the quart jar. I sell a few in small jars and a few in jelly glasses, but the quart jar is the package, and the one I sell the most of.

Mr. Coggshall—I will stand by Mr. Aikin in regard to selling honey. There is one thing I want to add to it which will help the everyday sale. In running over the honey wait till it begins to candy a little bit, and then run it; it will make the flavor much better, and granulate much finer.

L. F. Juno—I would like to know how Mr. Krueger gets 75 pounds in a 5-gallon can.

Mr. Krueger—That is all right; that is what it weighs. If you don't believe it come up and I will weigh one for you.

E. Davison—There is a great deal of agitation in regard to distributing our extracted honey, and there is a great deal of agitation in regard to the size and kind of packages which we use. We have two papers in our town, and I have an advertisement in each of them, something like this:

"Wanted.—Gallon syrup-pails in good condition, with lids to fit. We will take some half-gallons."

I pay 5 cents a piece for the gallon, and 3 cents for the half-gallon. There is a great deal of this common syrup used in our section of the country, and I don't find any trouble in getting all of the pails I want in good condition for 5 cents a gallon; and I put up my extracted honey in that shape. I furnish the grocery stores there with these gallon pails at 90 cents a piece, and the half gallons at 45 cents a piece. Where I retail to my customers I sell the gallon pails at $1.00, and the half-gallons at 50 cents. These gallon syrup pails, as you probably all know, hold less than 12 pounds—probably a fraction over 11 pounds; I put these in the grocery-stores, and I find that the grocery-stores that are handling these in that way are building up a nice trade in extracted honey in that size packages. It is a matter of education. There are two or three grocery-stores in particular that have a good trade; people that want extracted honey go there for it; they know what kind of honey they get, and the kind of package; and nearly all that I sell is in gallon pails, and very few call for half-gallons.

Dr. Miller—The only extracted honey in which I deal is alfalfa honey, so far as the extracted part is concerned, and I prefer it in 5-gallon tin cans; I always dispose of all I get in that form. I buy just as often as I need it a 5-gallon can for use on my own table.

E. Davison—I would say I always put a label on these cans. I have 60-pound cans that I call my storage cans. If any one wishes a 60-pound can I have it. I sometimes sell 60-pound cans to the groceries, and they put it into the Mason jars to suit themselves.

(Continued next week.)

Contributed Articles.

The Sisters Department—Smoker-Fuel.

BY WM. M. WHITNEY.

MR. EDITOR:—I am so glad you have added that Queen-Bee-keeping department to the "Old Reliable." May it expand, and continue to expand, until—no, not till the drones are all crowded out, but until it shall occupy as many pages as the queen occupies frames of comb in the hive!

What a gay time these Queens can have all alone. It does not smack of perverseness to defend one's position with spirit and strenuosity, if logically done, unmixed with irritability. It ought to be one of the most interesting departments—be co-extensive with the life of bee-keeping and that of the Journal.

At times, one might feel like making the acquaintance of some one of those "queens," but my advice is: If you know when you are well off, you'll be careful how you introduce yourself. I don't want both of my eyes swollen shut with puncture from the poison-pointed pen of one of these analytical "queens." I'd fear to approach one of them, though protected with a Globe veil. No, no, I shall admire them at a distance.

Any old drone, who has the temerity to interfere, in the least degree, with the internal arrangement or management of this "hive," is to be pitied. One old fellow has essayed to do something of the kind already, and, from appearances, has been "gone for," with something worse than smoke from salted old rags. He looks as if he had been stung right on the end of his nose. No, no, I'll tell you: *Keep out of that enclosure*, or you'll have a tune hummed to you in "Rag-time," and you'll wish you'd done your buzzing and dancing out in the woodshed, or behind the barn.

Now, Mr. Editor, on this smoke question, allow me just a word—this is for the drones, understand, and for them alone.

Has any one ever tried decayed appletree wood? I've tried almost everything from hardwood to saltpetred rags, and nothing suits me so well, unless it be dry, decayed elm-roots. There is none of that black, liquid creosote, dripping all over everything, and making a nasty mess, as is produced by almost every other fuel used. It ignites quickly and, when packed closely, will keep, if the smoker is not in use, for half a day. But this may be another question of *locality*, as we find almost everything else in bee-keeping is getting to be. Of course, this may be emphatically a question of locality, for you must be in the neighborhood of an old, decaying orchard to be able to secure the fuel; but I would go some distance to get it or elm root.

Now, remember I've said nothing about chips, nor have I a "chip on my shoulder." Walworth Co., Wis.

Various Methods of Rearing Good Queen-Bees

BY A. C. F. BARTZ.

I HAVE followed the discussion on queen-rearing with more than usual interest, because when such men as Dr. Gallup, Henry Alley, and Mr. Doolittle "take the floor," it becomes interesting to learn what the results may be. At one time during the dispute I had decided to keep still, and it would probably have been the best thing I could do, after all. But after seeing that the victory of the battle is leaning as much one way as the other, excepting the statement on page 596, together with that of Editors Root and Hutchinson taking a stand with Dr. Gallup, I feel encouraged to venture to give a little from my own experience in queen-rearing. And before I make any further statements I would like to have it understood that I do not rear queens for market; so what I intend to say in the following is not intended as free advertising.

Now, then, the statement has been made by Dr. Gallup that really good queens can be reared in strong colonies only, and from embryo queen-cells. Mr. Alley claims the best queen he ever owned was reared in a small nucleus, and advocates the nucleus method as the only right method for queen-rearing. Mr. Doolittle, who, I suppose, is as able

in the business as either Dr. Gallup or Mr. Alley, claims better results by the dipped-cup method; and either one boasted of his own success in producing the best queens; and their articles have a tendency to make us poor honey-producers believe that queens reared by their plans are the only ones good for anything.

I do not blame them for speaking a good word for their own business, but after trying the three different methods in question, I have found out that for the honey-producer the best and cheapest queens can be reared by the Gallup plan. I do not mean to say that every queen reared under the swarming or supersedure impulse is perfect. O, no! But I mean to say if the very best stock is used for the purpose, and an abundance of stores being on hand or supplied, the result will be a success. I will pay $25.00 to any queen-breeder who can rear a better queen by either the Doolittle or the Alley plan (from either his or my stock, if he so desires) than I can, or the bees themselves, according to the Gallup or natural way. What is the use of talking or writing? The "proof of the pudding lies in the eating." After having bought dozens of queens from different breeders, together with hundreds of colonies of bees, and carefully noting the difference in the amount of honey they gather, I ought to know whereof I speak, And, which is the best queen? Now, I wish to say right here, that it is not color, or any other quality, excepting the amount of honey, and consequently the amount of money received, per colony. I have had colonies of bees gather 8 supers of 28 sections each in one season; and in 1898 I had 38 colonies averge 100 pounds of comb honey to the colony, together with doubling their number in increase. How's that for naturally-reared queens?

Now I wish to give the beginner, and those not so much advanced as the professional queen-breeders, a simple method by which they can rear as good a queen as there is in the land. The method is as follows:

Rear a few queens under the swarming impulse—from eight to a dozen of the very best stock you have, marking in your diary or on the number-tag of each queen the number of the mother she was reared from. The following season test as to their honey-gathering qualities, and after having found which ones are the best and most uniform, rear from their mother the supply for your yard as follows:

Early in the spring, if the particular colony in question should for some cause or other not be very strong, make it so. Coax and crowd the colony to start to swarming. When the queen-cells are begun in the colony, put a queen-excluding sheet under the entire hive. Now watch for the queen-cells to become ripe, and take out the ripe queen-cells as fast as they become ripe. I have taken as many as 50 queen-cells from a single colony by this plan. More queen-cells will be built if a brood-comb be cut in two lengthwise about half way. The brood-comb should be an old one—a black one if it can be had—as the bees do not like to build it down as they will a new one, but will start a lot of queen-cells on the lower edge. In this way you can keep on rearing queens as long as the colony insists on swarming, and good ones.

Never select a queen for breeding that has simply a large force of bees and 10 or 15 combs of brood, for that is no evidence of her being a good one. The only test that I know of is the amount of honey they have gathered, and if comb honey is desired the whiteness and the plumpness of their sections.

I have had large colonies in the spring like Mr. Doolittle wrote of years ago, that promised to outstrip everything, but proved worthless in the end as honey-gatherers. But the longevity of a queen is an important factor, and Dr. Gallup is right when he says it takes 2 years to test a queen. But for a breeder it takes 3 years; and if the queen should be dead before her daughters are tested, she would be of no use; but if the queens are reared rightly, they will nearly all live 3 years, a good many 4, and a very few five; at least such is my experience.

Of course, I allow my queens to lay to their full capacity, using 40 to 50 combs during the height of the season, and that may have something to do with shortening their lives. I am using the 10-frame Langstroth hive, and have to tier them up 4 and 5 stories high, and I wish now that I had a 12-frame hive, as 5 stories are too high for convenience, and 4 are not high enough to accommodate the most of my queens. Chippewa Co., Wis.

The Premiums offered this week are well worth working for. Look at them.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Wintering Bees in a Garret.

My kitchen is one-story, ceiled (not plastered) above. The garret is therefore warm. Would that be a good place in which to winter a few colonies, putting the hives against the wall and cutting a hole so they can fly at will? I have a weak colony (happened to be unfortunate). In this weak colony is a queen that I prize very highly. If I put this colony in the warm garret, with hive or brood-chamber space reduced, will she, or can she, be induced to rear brood there, this month or next? They have plenty of stores.

KENTUCKY.

ANSWERS.—I don't know enough to answer your question. It is barely possibly that bees would winter first-class shape in that garret, but it would be best to try it first on a small scale.

It will be difficult to get that colony to rear brood through November and December, and it would almost certainly be of no advantage if they should. The quieter they can be kept the better.

The Queen's Laying—Brood-Nest Covering for Winter—Langstroth Hive.

1. A queen deposits eggs in worker and drone cells. Does the location of the egg produce a male or female bee? or has the queen the capacity or ability to lay a drone-egg in a drone-cell, and a worker-egg in a worker-cell?

2. What is the best covering for the brood-nest in winter, a cloth or thin board?

3. A queen lays two eggs. One hatches a worker-bee, the other a drone. Now, the bees make a queen of the worker-egg, and she is fertilized by the drone—her brother. Will their stock be as good as if the queen and drone had come from different stock?

4. Are the Langstroth hive and frame as good as others? KENTUCKY.

ANSWERS.—1. I don't know. Opinions are divided. Some think there is volition on the part of the queen, and some think there is some kind of mechanical compression or something of the sort that obliges the queen to lay in each cell the appropriate egg.

2. For outdoors it is generally believed that it is better to use the cloth so as to allow of upward ventilation. For the cellar it makes little or no difference if everything is open enough below.

3. The general answer will be "No."

4. That depends on what is meant by Langstroth hive and frame. One answer to the question is that there is no better, for every movable-frame hive is a Langstroth.

Cellar-Wintering—Robbing and the Robbed.

1. I have kept bees for 5 years, and I now have about 20 colonies. I winter them in the cellar, where the temperature is from 40 to 45 degrees. It is a good cellar to winter bees in, but this year I have 2 colonies that are very short of stores. How will it do to put a super on each of them with ten pounds of houey? This honey is stored in pound boxes.

2. How can I see that the bees are robbing? And how can I see when they are robbed? MINNESOTA.

ANSWERS.—1. It will be all right *if* you are sure the bees will reach the honey. The danger is that that they will remain on the combs and starve with the honey out of reach above them. Indeed, they will be pretty sure to do so if they do not carry the honey down before being taken into the cellar. You might put the sections in frames, and then put the frames of sections in the hive close up to the bees. If eight of the sections will not go in a brood-frame, cut

away one or two sides from some of the sections until they will go in.

2. You cannot tell by appearances; indeed, it is seldom that you can tell from appearances that a colony is robbing. It merely looks like a colony working very busily. But if you see one colony working very busily when others seem idle, you may suspect that the busy colony is being robbed or is robbing some other colony. It is easier to tell the colony that is being robbed. If you find bees flying very busily at a hive, especially if you know that the colony is weak, and you know it is not a time when bees are storing rapidly, you may be tolerably sure mischief is going on. Catch and kill a bee coming out, and one going in. If it is a case of robbing, you will find the bee coming out filled with honey, and the one going in will be empty.

Producing Extracted Honey.

Kansas is not a great honey-State, and the past season has been a hard one on the bees—too cold and wet. I have kept bees for four years, and they have stored a little surplus every year. I have run for comb honey altogether, so far. I have at this time (Nov. 3) 28 colonies, having started in the spring with 19 colonies, good, bad and indifferent, and took off between 900 and 1000 sections. I get 12½ cents a piece for them.

1. I use the 8-frame hive, and think some of running part of my bees for extracted honey. Is that size large enough?

2. Will I have to wire all my combs?

3. Is there an extractor made that will give satisfaction with section honey?

I have taken the Bee Journal for two years, and read it with interest. While there are a good many things written that are hard for us beginners to understand, yet enough is written to help us on the right track; and then experience is the best teacher, anyway. KANSAS.

ANSWERS.—1. It is quite possible you might be better pleased with a larger hive, but you can make the 8-frame very large by additional stories.

2. Combs were used for extracting before wired combs were heard of; but while combs are new great care must be used in extracting if they are not wired.

3. Probably any extractor can do the work of extracting sections by using in it wire-cloth pockets to hold the sections. But it is a fussy job, at best, to extract sections.

Queens Not Successfully Introduced.

I am not pleased with a queen that came late in August. I introduced her according to instructions on the cage, to a colony that had been queenless and without brood two or three weeks. After four or five days I examined, but failed to find the queen. The colony still remains queenless and without brood. Can you account for her non-acceptance?

UTAH.

ANSWER.—Hard to tell. None of the ordinary methods of introducing queens is infallible, and the safe introduction of queens is still an unsettled question. A plan may succeed ninety-nine times and fail the hundredth time, and yet no one can say why the hundredth time should be any different. It is barely possible that in spite of your not finding the queen she may still be present. Sometimes a queen will be in a hive a good many days before beginning to lay, and sometimes queens stop laying in September, and not very late in September, either. So the queen may be still there, waiting to lay next spring. The colony had been "queenless and without brood two or three weeks." Sometimes when queenless so long they become reconciled to their condition, and when a queen is offered they will have none of her. It is just possible that a young queen was reared in the hive, causing the death of the queen introduced, the young queen being afterwards lost on her wedding-tour.

Other guesses might be made, but I may as well own up first as last that I don't know why the queen was not successfully introduced.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

.6380, .6381, .6382, .6383.

The above, and the six numerals next in succession, stand for the different departments of apiculture, it seems. (Interjections from the boys.) Also, .63833 and .63834 stand for more minutely subdivided apicultural things. If we only go far enough we can find *ourselves*—instead of losing ourselves, as those who wander far are apt to do. Mayhap, about .63839876543210 will prove to be this here "Afterthought" of ours. "Amazin'!"

But, really, my mind has not had such a stirring up for quite awhile as it got by contemplating this simple scheme for putting absolutely everything into its own numbered pigeon-hole. I thank Mr. C. P. Dadant for bringing it to our attention. Both advantages and objections seem rather obvious. Very desirable that classification and subdivision should be the *best* possible, and an iron-clad rule to make just ten parts every time could rather seldom be exactly the best. Awkward to divide a clover leaf into ten parts, and simple to divide it into three. As a first division of all human thought, effort and knowledge, I should be for making nearer fifty items than ten.

Moreover, I think this can be done and will leave the advantages of the system intact. One foundation idea of the system seems to be that decimals can always be added to without affecting the value of previous figures. Adding two figures to simple five makes it five thousand, and we have to think of the great increase in value. That's an irrelevant idea in this use of figures, and it does not trouble so much on the other side of the decimal point. But putting the *first* division on the left of the decimal point does not bring in the difficult—and thereby we can have as many divisions as we want the first time. So doing we can leave some blanks (after the manner of numbering houses on a street) in which the world's future thought can have space to work without so completely abolishing our work. Let me illustrate my scheme, not having seen the other one.

A. Things pertaining in whole or in part to the soul of man.

1. Religion.
2. Evangelism.
3. Philanthropy.
4. Soul Philosophy.
5. Music.

Then five blanks left, and continuing—

B. Things most properly pertaining to the mind of man.

11. Mental Philosophy.
12. Languages.
13. Literature.
14. History.
15. Logic.
16. Rhetoric.
17. Mathematics.
18. Astronomy.
19. Geology.
20. Cosmogony.

And a big lot more. Then many blanks left, and continuing—

C. Things pertaining for the most part to the body of man.

101. Medicine.
102. Athletics.
103. Agriculture.
104. Hunting.
105. Fishing.
106. Mining.
107. Engineering.
108. Transportation.
109. Navigation.
110. Defense.

And a lot more. Thus we get Apiculture as (103.8) instead of (.638).

Coming to our own corner, I suspect that those who look upon Apiculture mainly as a science will refuse to be pleased with any classification which satisfies those who consider it mainly as a means of getting a living—and vice versa.

I fear a similar trouble will go through pretty much the whole thing. Spiritually-inclined man will say that *of course* things pertaining to the soul must have the most prominent spread. Scientifically-inclined man will say that of course the sciences must have a raging lion's share of the whole view. Bread-and-butter man will want both spiritual and scientific things crowded into small and inconspicious corners, that the general landscape may be filled with things "practical," as he would term it.

Also, so many things have a bearing on work-a-day affairs, too, that the pigeon-holing of the same thing in two places will be dreadful. Page 647.

SCRAPING SECTIONS OF HONEY.

Twelve hundred sections a pretty good day's work scraping honey with a knife. We should say so, Miss Wilson. Somebody, some time, will want to define a standard day's work at scraping honey. For the present we will let this be it. Possibly some of the brethren will call it nearer the "record" than the "standard," as it is one for each half minute of the ten-hour day.

And if your arrangements allow the bees to get at the section-bottoms, and if you are willing to sandpaper, then Miss Wilson's tightening-up frame, to facilitate sandpapering a whole super at once, is evidently very valuable.

As a matter of experience—with small crops—I scrape my sections a few at a time, and find myself looking forward to it as restful work instead of shuddering at it. I must confess, however, that it is dirty. Perhaps the grand key to this difference is the fact that bees can't get at my sections anywhere except on the edges. Page 647.

NURSE-BEES AND ADOPTED BROOD.

Not mentioned in print before—that's the kind of thing readers cry for. This time it is the alleged fact that nurse-bees will stay a little more faithfully with recently adopted brood than with their own. This when making nuclei. Unexpected. Both "Ohio" and Dr. Miller agree that it is so. Here's my guess: Want-to-be nurses and the bees below crowd them off and will not let them, because they are not needed. Having just got a longed-for job they naturally incline to stick to it. Page 650.

BUCKEYE—ROBBER-BEES—VIRGIN QUEENS—SWEET CLOVER—HEARTSEASE.

Buckeye is abundant here, and much visited in bloom-time; but I never saw or heard of any ill from it. Have my eyes been dull? or has California a more poisonous species than ours? or is Mr. Brown mistaken? Page 651.

Spoil the welcome of quiet robbers by scenting them with something sprayed on them. Shouldn't wonder if that would work sometimes. Page 652.

Interesting experience of Dr. W. A. Johnson. Very young virgins will very often supersede old queens by merely running them in as soon as they emerge. Page 653.

Aha! Sweet clover has (in Mississippi) learned to grow in competition with weeds and grasses, without requiring the grinding of wheels or trampling of stock. And this within the last two years. Page 655.

Have often wondered why our abundant heartsease should be of so little value to us when it is so often mentioned as important. Another case of longitude. Like alfalfa it leaves its honey when it comes this side the Mississippi. Page 659.

Honey as a Health-Food is the name of a 16-page leaflet (3½x6 inches) which is designed to help increase the demand and sale of honey. The first part is devoted to a consideration of "Honey as Food," written by Dr. C. C. Miller. The last part contains "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by every one who has honey for sale. It is almost certain to make good customers for honey. We know, for we are using it ourselves.

PRICES, prepaid—Sample for 2 cts.; 10 for 10 cts.; 25 for 20 cts.; 50 for 35 cts.; 100 for 60 cts.; 250 for $1.25; 500 for $2.25; 1000 for $4.00. If you wish your business card printed at the bottom of the front page, add 25 cts. to your order.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get them subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Late Strawberries.

November 12 I picked nearly two quarts of large, ripe strawberries, and we had strawberry short-cake for dinner. Isn't that doing pretty well for McHenry Co., Ill.?

When to Put Bees into the Cellar.

When shall I put my bees into the cellar? This is my first year of bee-keeping, and I want to put them in at just the right time, but I don't know what the right time is.

BEGINNER.

ANSWER.—Just as long as the weather is pleasant, and there is a chance of your bees having a flight occasionally, they are better out-of-doors.

In regions where it is cold enough to make cellar-wintering desirable, it is well to leave the bees out until settled cold weather comes. It is very difficult to tell just when is the right time to put them in. The temperature may go down to zero, and if it is early in the season, and there is a reasonable chance for their having a good flight later, better leave them out. On the other hand, if it is the middle of November, and the bees have had a good flight within a day or two, and it comes a cold snap, better not take many chances. That last good flight just before they go in is what we want to make sure of, and we may reasonably expect settled cold weather soon after the middle of November. If possible, it is best to put them in the very day after they have had a good flight.

Put it down as a fixed rule that it is always the right time to put bees in just after they have had their last flight; but the trouble is to know which is going to be their last flight.

Sweetening Up Sour Honey.

Four kegs of last year's fine, white honey have soured. Will heating up sweeten it? If not, *what* will? They are a mild case of it? A prescription for use will greatly oblige.

NEW YORK.

ANSWER.—Being a mild case, heating up may do some good, but great care would be required in not heating too much, as the flavor would be spoiled. Slow and long heating is best, setting on the reservoir of the cook-stove, or some place where it would heat very slowly, during several days.

It might be a good thing to skim or pour off the top, as that is probably the worst, and treat separately.

Perhaps the best way would be to let it candy, then drain, and the thin part will all drain off, and after heating what is left you will no doubt have some very good honey. The thin part which is drained off you can use for vinegar. If too bad to candy and drain, the whole of it might be used for vinegar. Or, as it is a mild case, the whole of it might be used for cooking purposes, always supposing you can dispose of it to some baker who uses a good deal.

A Silver-Spoon Swarm.

There has been no need for us to invoke Jupiter Pluvius, for rain we had in plenty, and not only rain, but sometimes thunder and lightnings too genuine to be mistaken for Salmoneus driving his chariot over his brazen bridge and throwing down lighted torches. During these manifestations of Jupiter, the bees necessarily stayed at home, and as we learn from Indiana papers, the heavy rains, and the limited supply of white clover caused by last summer's drouth, have both combined to make the honey crop short this year in Indiana.

As regards my own bees, I have but one colony, for never having kept bees until this year, I thought it best to confine my experiences to a single hive, until profiting by what lessons I learn, I can perhaps one day realize my vision of a long bee-bench occupied with colonies, whose homes fairly overflowing with their luxurious sweetness, might

well rival the palace of Madame Tartiue and her family, that is described in such appetizing verse in La Mere L'Oie.

One remembers the old adage—

"A swarm in May
Is worth a load of hay;
A swarm in June
Is worth a silver spoon;
But the swarm of July
Isn't worth a fly."

My own belongs to the silver-spoon class, so I could not expect much, if, indeed, anything, in the way of surplus honey. No, not a drop of honey by way of tribute, or to pay for a silver spoon, was ever taken upstairs, but downstairs investigation shows that they have collected sufficient food for their winter provision.

Then, besides, my colony was occasionally visited by small bands of robber-bees. I do not know what Hippolyta was doing during the sieges, but I know that her Amazons fought bravely, and were victorious. I had an anti-robbing entrance made according to Cheshire's device, and it proved the most effectual of all my plans to aid the bees. Bold, indeed, must be that bandit bee or wax-moth which would thread that narrow and crooked passage! Alert, indeed, are the sentinels stationed at those corners to meet the daring foe!

Therefore, taking into consideration the disadvantages resulting from a late swarm, robbers, wet weather, and the cornucopia not overflowing, the owner of this colony has no cause to be dissatisfied if the bees failed to bring her a silver spoon; and, if on account of empty supers. the commercial honey-king sits in the parlor without money, let us hope, at least, that the blessed queen-bee is in the kitchen eating bread and honey from out of numberless silver spoons brimful and running over!

One can build hives in the air as well as castles, so I have visions of hives and honey, of prime swarms and after-swarms, of flowers and of bees. But so have we all visions of summers to come, when the visible delights of flower and bee will make us say with Zonas the Sardian:

"Ye nimble honey-making bees, the flowers
are in their prime;
Come, now, and taste the little buds of
sweetly breathing thyme;
Of tender poppies all so fair, or bits of raisin
sweet,
Or down that decks the apple-tribe, or fragrant violet;
Come, nibble on—your vessels store with
honey while you can,
In order that the hive-protecting, bee-preserving Pan
May have a tasting for himself, and that the
hand so rude
That cuts away the comb, may leave yourselves some little food."

KATE V. AUSTIN.

Wayne Co., Ind., Sept. 8.

What Yon Yonson Thinks

Vell, Peter Peterson he com over das dinner time, an das veder bean awful fine an varm, an dom bees dom bean flying som hunding for somdings eider sveet or green. Now, Peter Peterson, he bean first cussin to Ole Peterson, cours Ole he got more cussins now, but Peter he bean da first von. Dats vat Peter sed, any vay.

Now, Peter he bean vay bout 200 pounds, an he don't bean very long in das country. By an by a bee com bussing roun Peter, an he tak off his hat an goan to fite him. An purty soon tre or four bees dom youst sit rite down in Peter's hair, an Peter he yust yump roun so fast—ay vas almost fraid Peter goan to run over himself.

Purty soon von little bee he sit rite down on Peter's nose, an for bout five minit ay don't know if Peter vas all stars, or if he bean all stripes, or if it bean som cyclone vat youst bean vent over. But by an by it begin to kine of clear up, an ay look all roun, but, mine goodnes! ay don't kin see Peter. But purty soon ay hear big racket in da sellar, an ay go down an ay fine Peter, he being hide behine da potatis box. Ay coax for long time, an by and by ay make to com out, but he say da yust hurt awful; an he say, "My ying! dom don't hav no bugs in da old country vat bite lak dem tings." Cours, dom bean had bees in Sveden, but Peter he don't never bean had much experience. But, my ying, it bean yust vort four dollars to seen Peter. He bean purt neer bline on von side, an da odder side he don't kin see a little bit. An, mine goodness, his nose yust stick out lak Chicago. An dom tears yust run all around Peter's nose. Maw, she put kerosene all over Peter's face, an in his hair, an on his nose, but it don't seems to dun much gud. Dats vat Peter say, any vay.

So ven Peter vent home he seems to bean kine of mad, an he say he goan to git even. Course, if ve goan to fite dom bees po das vay ve goan to git left; but da honey vat dom make it bean awful sveet an helty, an ay tank it bean som gud ting to sen som body roun to tell all das peoples how good it bean. It bean good for bad colds, and coffing, an purt near all kines of sickness. Now, if dom peoples ma honey can yust save das doctor few trips, den dom save money nuf to buy lots ma hunny, an it bean plenty gud ting for dom chilrens—som don't need to be sick. It don't bean notting so gud for company som hunny, an ven dom peoples have plenty honny dom don't bean so hard on das sugger-bole.

Ay don't got time to go roun, but Peter he bean had plent experence now. Mebby he go. But, my ying, it don't bean safe for Peter to carry any samples, coz him lak hunny so vell he mebby ete up hole ting.

Ven Peter com out of da seller das time, ven dom bees bite him so bad, ay tank him bean look lak Propaganda, but ay been to Kansas an ay seen lots of yack-rabits, an dom yump youst bout lak Peter ven dom bees bean bite him. An Peter he bean big nuf to mak dom peoples ete plenty hunny all rite.

Dr. Gandy he say dom peoples vat eat plenty hunny never bean git brites diseas. Ay tank him bean rite. Ay no feller vat got brites diseas plenty bad. He bean von of dem

GET A DANDY

THE DANDY BONE CUTTER

will double your egg yield. Thousands of poultry raisers say so. It costs less, turns easier, cuts faster and lasts longer than any other. Price $5.00 up. Sold on 15 Days' Free Trial. Send for book and special proposition.

STRATTON MF'G. CO., Box 21, Erie, Pa.

Please mention Bee Journal when writing.

Bees Wanted on Shares.

HAVE YOU IDLE CAPITAL?

We are owners of 1000 colonies of bees, and want 1000 more to run on shares. We have the best location in the best part of Texas, and will give as references H.W. Wiseman & Co., Bankers, Paul Neubauer, P.M., or any responsible business firm of Floresville or Hutto, Texas. We have the best assistants we can procure, and have been in the business since 1893. We have heavy fall rains, and next year will be a big one for honey. If you have as many as 250 colonies of bees, ship them to us, pay the cost of location, and supply us the necessary equipment for honey production, and we will give them all the necessary attention, and give you one-half the honey. Bees must be all in either 8 or 10 frame Dovetailed or Langstroth hives. Let us explain to you more fully; therefore, we solicit your correspondence.

THE HYDE BEE CO., Floresville, Tex.

48Atf Mention the American Bee Journal.

Try Phacelia TANACETIFOLIA —1 oz. seed, 25 cts. in January, if ordered NOW. Any quantity. O. LUHDORFF, VISALIA, CALIF.

48A2t

FENCE! STRONGEST MADE. Bull Strong, Chicken-Tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO. Box 89 Winchester, Indiana, U. S. A.

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FOR SALE.

7000 lbs. Extracted Basswood Honey, stored in basswood barrels and kits. Large barrels each holding 330 lbs. net; ½ barrels, 180 lbs.; kits, 33⅓ lbs. Prices—7½c per pound in barrels, and 8c in kits, f.o.b. cars at Viola. Cash must accompany order. Sample by mail, 10c. Address, 41A13t N. L. HENTHORN, box 83, Viola, Wis.

CYPHERS INCUBATOR.

World's Standard Hatcher.

Self Supplied Moisture

Used on 26 Gov. Experiment Stations in U. S., Canada, Australia and New Zealand; also by America's leading poultrymen and thousands of others. Gold medal and highest award at Pan-American, Oct. 1901. 16-page circular free. Complete catalogue, 180 pages, 8x11 in., mailed for 10c.

Ask nearest office for book No. 50

CYPHERS INCUBATOR COMPANY,

Buffalo, N. Y., Chicago, Ill., Boston, Mass., New York, N. Y.

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If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

The Nickel Plate Road

will afford its patrons an opportunity to take advantage of low rates for Christmas and New Year holidays, by selling tickets at a fare and a third for the round-trip to all points on their line, Dec. 24, 25, 31, 1902, and Jan. 1, 1903. Return limit including Jan. 2, 1903. Through service to New York City, Boston and other eastern points. Chicago passenger station, Harrison St. and 5th Ave. For further information, address John Y. Calahan, General Agent, 113 Adams St., Chicago.

66-47A5t

PAGE

CLIMBING

a woven wire fence is a pretty good test. You can climb the PAGE without leaving your mark.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing.

1-lb Keystone ... Honey-Jars

These are clear flint glass jars holding just one pound, and the shape of a keystone. They are 7⅛ inches high, and very pretty when filled with honey. The corks can be sunk a trifle below the top, and then fill in with beeswax, sealingwax or paraffin. We can furnish them in single gross lots, with corks, f.o.b. Chicago, at $3.50; two gross, $3.25 per gross; or five or more gross, at $3.00 a gross. These are the cheapest glass one-pound jars we know anything about. We have only about 20 gross of them left. So speak quick if you want them. Address,

GEORGE W. YORK & CO.

144 & 146 Erie St., - CHICAGO, ILL.

Please mention Bee Journal when writing advertisers.

fellers vat hang round da salune, and he bean awful brite on da en of his nose, an his nose bean red yust lak ours heating stove on Crismas morning. Ay tank das bean da vorst ting vat ay never seen. He got vife an childdren, too, an his voman she hav to do vashing for living, on dom chilren dom go barfutted ven it bean cold, an dom don't can go to skul much, coz das paw he don't vil by any books. If hunny can kure das kine of feliers, den ay tank it bean some gud ting, coz das bean da vorse diseas vat ay never seen. Ay tank if he by more hunny an less visky it bean plenty much better for das famly. Ven das feller tak on plenty visky he don't got more sens dan to fite his owe grammudder. Ay tank brites diseas bean plenty bad ting.

Ay hope das N. B.-K. A. have nex big camp metings in Chicago, coz den Yon Yonson he goan to be dar, if he have to go hors back an ride ole Yim. YON YONSON.

FROM MANY FIELDS

The Dandy Hat-Box Feeder.

Any married man can make one.

Directions: Take your wife's largest cardboard hat-box; put the cover on the bottom of the box, to strengthen it; cut the deep part to say four inches in depth. Then take your brad-awl and punch the bottom of this combination full of holes. Now, put this over the frames, add on an empty super, so you can put on the hive-cover, and you are fixed. Just fill the feeder full of honey, or sugar syrup if you have not the other, cover up the hive, and the bees will do the rest.

The next day when you go to see that hive, the bees will have licked up and stored that honey in a way that will astonish you. Besides, the feeder will help keep the bees warm in cold weather. It is in the hive and ready for use next spring.

How much for this patent do you say? Oh, a year's subscription to the American Bee Journal will do. If your wife starts any trouble for taking her hat-box you'll have to square the matter with her. I'm only giving you good advice, not fighting your battles. I'm posted on family rows, and never mix in such unpleasantness. Benevolently,

YOUR UNCLE FRANK.

A "Shocked" Swarm!

Now that the (should-have-been) honey harvest is a thing of the past, we were all snuggling down to comfortably snoozle away the few interveeing months between now and next spring, having donned our sleeping-robes and night-caps with the hopeful expectation of quietly dozing away the said months, should they be allotted to us. Hardly had we reclined in a comfortable position when we were shockingly awakened from our sweet reverie of hives and honey by big, bold head-lines of, "Nomenclature of Forced Swarms," page 691. Our heads do not get any rest. It is first one argument and then another. Why must we worry about Nomenclature? I can boldly answer (*a la* Miller), "I don't know." We must wake up and argue about the proper or improper name for a swarm. I don't believe it makes any difference to the swarm what they are called, as long as they have a long-tongued, long-lived, and long-pedigreed queen, lots of stores, and good, comfortable quarters to keep house in.

For the sake of argument I call it a "shocked" swarm, because the bees are thrown off by the shock of the shake, therefore they are shocked when the shaking is shocking enough to shake them off the comb on which they were previously. I do not pretend to shake against such a shaker as Mr. E. R. Root, nor do I want to be shocking to our dear Dr. Miller, but I must express my unshaken belief, before the man with a jouncer comes along and scoops us all up, by

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa

Discounts for Early Orders.

On all cash orders received before Jan. 1, 1903, we will allow you a discount of 4 percent; before April 1st, 2 percent. Send us a list of the goods you want and we will quote prices by return mail.

G. B. LEWIS CO.,

Manufacturers of Bee-Keepers' Supplies, WATERTOWN, WIS., U. S. A.

WHITE COMB HONEY WANTED.

Please write us, stating source gathered from, quantity, and price delivered here. It must be put up in no-drip cases. Address,

GEORGE W. YORK & CO.,

144 & 146 E. Erie Street, CHICAGO, ILL.

C. H. W. WEBER,

(Successer to Chas. F. Muth and A. Muth.)

Central and Freeman Avenues, Cincinnati, Ohio.

Prompt service, lowest prices, with best shipping facilities.

BEE-SUPPLIES { THE BEST MADE. ROOT'S GOODS AT THEIR FACTORY PRICES.

HONEY-JARS

1-lb. sq. Standard, with cork, gr.,	$4.75	1-lb. sq. Standard, spring top, gr.,	$5.50
½ " " " "	3.75	1-lb. Keystone, spring top, gross,	5.25
5-oz. " " " "	3.00	1-lb. Octagon, spring top, gross,	5.25
		¾-lb. " " " "	4.75

SEEDS of Honey-Plants

100 lbs. white sweet-scented clover,	$10	100 lbs. White Dutch,	$20
100 lbs. yellow " " "	$15	1 oz. Catnip seed,	10c
100 lbs. Alfalfa clover,	$12	1 oz. Rocky Mountain Bee-plant,	15c
100 lbs. Alsike clover,	$15	1 oz. Eucalyptus seed,	20c

Xmas Books

New plans, new prices, new schemes—we give you over 50 percent commission on fine, big books selling at 22c, 37c, 73c; and you can

SELL 2 to 6 AT EVERY HOUSE.

Address quickly, HOWARD & CO., 519 Masonic Temple, CHICAGO.

47A3t Please mention Bee Journal when writing

We are the Largest Manufacturers of Bee-Keepers' Supplies in the Northwest

Send for catalog.

Minneapolis, Minn.

We have the Best Goods, Lowest Prices, and Best Shipping Facilities.

Have You Seen Our Blue Cat-

alog? 60 illustrated pages; describes EVERYTHING NEEDED IN THE APIARY. BEST goods at the LOWEST prices. Alternating hives and Ferguson supers. Sent FREE; write for it. Tanks from galv. steel, red cedar, cypress or fir; freight paid; price-list free.

KRETCHMER MFG. CO., box 90, Red Oak, Iowa.

Agencies: Trester Supply Co., Lincoln, Neb.; Shugart & Ouran Council Bluff Iowa; Chas. Spangler, Kentland, Ind. 12E26t

27 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 27 cents a pound—CASH—for best yellow, upon its receipt, or 29 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

advocating the name of a jounced swarm; or before Yon Yonson Gallups up the Alley, Bent-on expressing himself in his Swedorgen-Limbergerburg excruciatingly funny expressions, I must retire from the platform of argument, and "go back and sit down" among the small fry, and fold my arms over my palpitating heart, while big men, with big capacities and big ideas, harangue and argue over the momentuous question whether the swarm is brish, brash, or brushed; shick, shack, or shaken; jim, jammed or jounced.

Now, I thank you for your forbearance with my nonsense, and will say with the patriarchs of old, "Let er go; let 'em have it."

I will now crawl back into my little cell, until disturbed again. SHAKER.

Baltimore Co., Md., Nov. 8.

Bad Year for Bees.

This was a bad year for bees here. I had five colonies last spring, and now have eight. I got 100 pounds of comb honey.

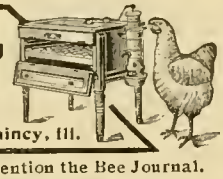
There was no white clover last June, but it bloomed in August and yielded some honey.

JAMES KANE.

Dubuque Co., Iowa, Nov. 17.

Rearing Long-Lived Bees.

Mr. Heury Alley, in his concluding remarks on page 729, says: "I have come to the conclusion that we all rear queens by the same method as does Dr. Gallup. There is no other way to rear good queens. All queens



$12.80 For 200 Egg INCUBATOR

Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.

GEO. H. STAHL, Quincy, Ill.

46A26t Please mention the Bee Journal.

BOYS WE WANT WORKERS

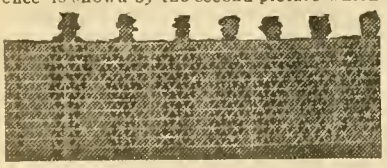
Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. DRAPER PUBLISHING CO., Chicago, Ill.

Proven by Test.—For several years the advertisement of the farm fence manufactured by the Coiled Spring Fence Co., of Winchester, Ind., has appeared in the columns of our paper, and will be found elsewhere in this issue. They have made the claims repeatedly that theirs is

SUPPORTING THE WEIGHT OF 7 MEN.

the strongest fence made, and offer to prove it by the fence itself. We have been privileged to reproduce from actual photographs an unique test of the Coiled Spring Fencing. The first picture shows a panel of this fence supporting 7 men, whose combined weight was 1200 pounds.

The wonderful elasticity of the Coiled Spring Fence is shown by the second picture which is



AFTER RELIEVED OF THE WEIGHT.

a reproduction of an actual photograph of the same panel of fence taken immediately after relieved of the weight. The test was surely a severe one, and the picture shows the fencing fully equal to it. Catalogs and descriptive matter relative to this fencing are mailed free for the asking. When writing please mention the American Bee Journal.

SPLENDID PRESENTS!

For a little work you can easily earn watches, clocks, silver, games, books, dolls, knives, guns, cameras, etc. Don't miss our NEW plan and special premium list. Write to-day to— HOWARD & CO.

47A6t 510 Masonic Temple, CHICAGO.

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Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

DAIRYMEN ARE DELIGHTED to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars. DRAPER PUBLISHING CO., Chicago, Ills.

Please mention Bee Journal when writing.

BINGHAM'S PATENT Smokers

24 years the best. Send for Circular.

25Atf T. F. BINGHAM, Farwell, Mich.

Please mention Bee Journal when writing.

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.20	2.30	5.50	10.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.

144 & 146 Erie Street, - CHICAGO, ILL

POULTRY PAYS

when the hens lay. Keep them laying. For hatching and brooding use the best reasonable priced Incubators and Brooders — built upon honor, sold upon guarantee.

Send for Free Catalog

THE ORMAS

L. A. Banta, Ligonier, Indiana

40A20t Please mention the Bee Journal.

The Fred W. Muth Co.

Front and Walnut Sts.,

CINCINNATI, OHIO.

HONEY JARS MUTH'S 1-pound, SQUARE with patent glass stoppers and steel spring are the best; only $5.50 per gross.

SEND FOR CATALOG OF BEE-SUPPLIES. SPECIAL INDUCEMENTS.

Please mention Bee Journal when writing advertisers.

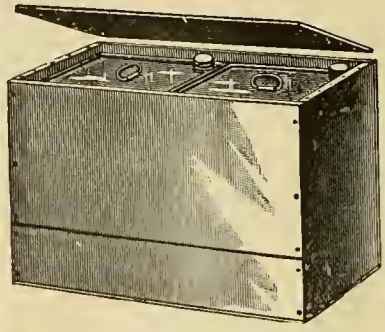
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Write for Quantity Prices by Freight, if Interested.

A sample of either, by mail, 10 cents, to pay for package and postage.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

reared in queenless colonies are reared by Nature's best plan," etc. I do not write to oppose Mr. Alley or any one else, but I do want to say that whenever I rear queens in queenless colonies I get the poorest queens, and I consider those colonies *forced* to rear queens and far from Nature's way of rearing them. Nature makes arrangements for young queens before the old queen departs (except in case of accident). When Nature has not been thwarted by man, but rightly assisted, good queens are the results, with a fertile queen at liberty and laying in the hive.

I wonder if my article on page 268 (1900) was the start of this commotion on rearing long-lived bees. Dr. Gallup is on the line for the production of the best queens, yet he admits he does not know all. Again, on page 519, Mr. Alley says: "I have found by actual experiments that a colony of bees will not rear good queens while there is a fertile queen present. I don't want anyone to tell me it can be done, for I assert that it cannot be done by any person," etc. Well, well, I might assert it can be done *by the bees*, but not by "any person." I have demonstrated this to be the only way I can depend on getting good queens, and when conditions are right, in perfect harmony with Nature.

Lucas Co., Iowa. GEO. W. RIKER.

Had to Feed All Summer.

I have 40 colonies of bees, and I had to feed them all summer; it was so cold and rainy that the bees could not get much chance to work. I took off 1800 pounds of fine basswood honey, all in one-pound boxes.

Lycoming Co., Pa. T. S. APKER.

CONVENTION NOTICE.

Chicago - Northwestern. — The executive committee of the Chicago-Northwestern Bee-Keepers' Association have planned to hold the best convention ever convened in Chicago. The date is Dec. 3d and 4th, Wednesday and Thursday. Five eminent bee-keepers have been invited, and are expected to attend. More definite announcement later. Watch for it. Reduced rates on account of the fat stock show, which is held Nov. 29th to Dec. 6th.

HERMAN F. MOORE, Sec.

SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.
Please mention Bee Journal when writing.

FOUR PERSONALLY CONDUCTED EXCURSIONS FROM CHICAGO, COUNCIL BLUFFS AND OMAHA TO CALIFORNIA WITH CHOICE OF ROUTES.

These excursions leave Chicago every Tuesday, Wednesday, Thursday and Friday at 11:30 p.m., and Omaha every Wednesday, Thursday, Friday and Saturday at 4:25 p.m., in Pullman Tourist Sleeping Cars, **over the Union Pacific.** The cars are accompanied all the way by conductors skilled in the service of excursion parties. The **Union Pacific** is the only line from Omaha running four excursions to California every week.

These excursions can be joined at any point enroute.

For full information call on or address W. G. NEIMYER, G.A.,
193 South Clark St.,
44Atf Chicago, Ill.

Catnip Seed Free!

We have a small supply of fresh, clean CATNIP SEED on hand, and will mail **free, two ounces** of it, to any present paid-in-advance subscriber of the American Bee Journal for sending us **One New Subscriber** for one year with $1.00.

Two ounces of this seed will give you a good start of one of the best honey-producing plants known. We will also send to the new subscriber on this offer the rest of this year's Journals free. Address,

GEORGE W. YORK & CO.,
144 & 146 E. Erie Street, - CHICAGO, ILL

$5 TO START YOU IN BUSINESS We will present you with the first $5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.
DRAPER PUBLISHING CO., Chicago, Ills.
Please mention Bee Journal when writing.

Reduced Rate for Christmas and New Year Holidays.

The Nickel Plate Road will sell tickets Dec. 24, 25 and 31, 1902, and Jan. 1, 1903, at rate of a fare and a third for the round-trip, to any point located in Central Passenger Association territory, good returning to and including Jan. 2, 1903. Pullman service on all trains. Individual Club Meals, ranging in price from 35c to $1.00, served in dining-cars. Address John Y. Calahan, General Agent, 113 Adams St., Chicago, for particulars. Chicago city ticket office, 111 Adams St.; Depot, Harrison St. and 5th Ave. 65–47A5t

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

ENVELOPES

printed to order, only

$1.00 per 1000

A neat little coupon on each envelope will bring you dollars. Other printing cheap. Address at once,

HOWARD & CO.,
47A6t 519 Masonic Temple, CHICAGO.
Please mention Bee Journal when writing.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.
THE FRED W. MUTH CO.
32Atf Front and Walnut, CINCINNATI, OHIO.

Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
Chicago, Ill.

HONEY AND BEESWAX
MARKET QUOTATIONS.

CHICAGO, Nov. 19.—A slow, steady market may be said of conditions now prevailing in Chicago. The volume of sales are small, and the receipts are correspondingly so. 15@16c is obtained for best lots of white comb in a jobbing way, while for selections a little more is asked; amber grades, 10@15c, according to flavor, style, etc. Extracted, white, 7@8c; amber, 6@7c. Beeswax, 30c on arrival.

R. A. BURNETT & Co.

ALBANY, N. Y., Nov. 9.—Good demand for honey at former prices. Fancy white comb, 16c; A No. 1, 15@16c; No. 1, 15@15½c; buckwheat, 14@14½c. Extracted, light, 7@7½c; mixed, 6½@7c; buckwheat, 6½c. Beeswax, 30c.

H. R. WRIGHT.

BOSTON, Oct. 20.—Our honey market remains firm, with good demand and fair stocks on hand. Honey is not coming forward as fast as usual, and the tendency of prices is steady. We quote our market as follows: Fancy white 1-pound sections in cartons, 16c; No. 1, 15c; No. 2, very light supply, 14c; glass-front sections generally one cent less than this. Extracted, light amber, 8c; amber, 7½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Nov. 22.—We quote fancy white comb honey, per case 24 sections, $3.50; No. 1 white, per case 24 sections, $3.40; No. 2 white and amber, per case of 24 sections, $3.25. Extracted, white, per pound, 7½c; amber, 6½c. Beeswax, 27@30c.

Our market has changed quotations of comb honey from pound to the case.

C. C. CLEMONS & Co.

CINCINNATI, Nov. 8.—There is a good demand for all grades of extracted honey, prices ranging as follows: Amber and Southern in barrels, 5½@6½c; clover and basswood, 7@8c. Fancy comb sells 16@17c. Beeswax, 27c.

THE FRED W. MUTH Co.

NEW YORK, Nov. 8.—Demand for comb honey is good and same finds ready sale at from 15@16c for fancy white, 14c for No. 1 white, 12@13c for No. 2 white, and 12@13c for buckwheat. Extracted in fair demand at 7½c for white, 6½c for light amber, and 6c for dark. Southern in barrels from 60@65c per gallon. Beeswax quiet at from 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Nov. 18.—The demand for comb honey is good and prices are a little better, as the supply does not meet the wants. Extra water-white fancy is selling as high as 16 cents; other grades less, according to quality. Extracted is very active and prices are a little better; amber, 5¼@5½c; alfalfa, 6½@7½ cents; white clover, 7½@8c. Beeswax, 28c.

C. H. W. WEBER.

SAN FRANCISCO, Nov. 12.—White comb honey, 10½@11 cents; amber, 9@10c; dark, 5@—c. Extracted, white, 6@6½c; light amber, 4¾@5¼c; amber, 3½@4c. Beeswax, good to choice, light, 26@27c; strictly fancy light, 29@—.

White is reported scarce; light amber honey in fair supply. The bulk of California produced honey is sold for Eastern shipment in carload lots from producing point at bottom price. Small lots of choice honey that can be used in local trade bring more. Quotations here given are current prices to producer, f.o.b. shipping point, on Eastern basis for extracted and California basis for comb.

Wanted Comb and Extracted Honey!
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R. A. BURNETT & CO., 199 S. Water St., CHICAGO
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John F. Campbell, 53 River St., Chicago, Ill.
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Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER.
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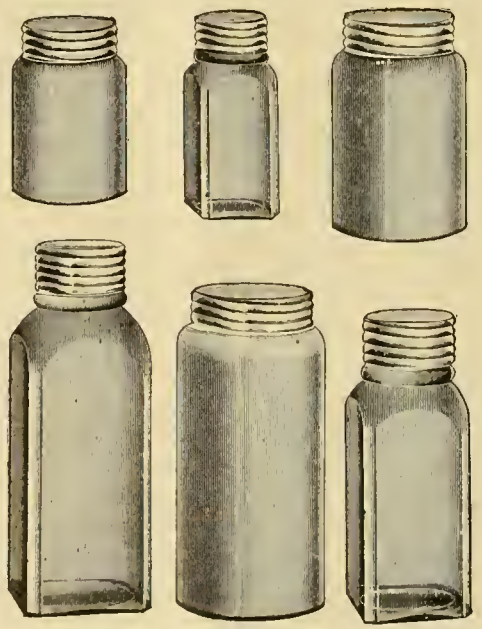

These jars were designed for use in the honey exhibit at the Pan-American Exposition, in Buffalo, and are very neat and attractive. They have cork-lined aluminum caps which seal them tight. If honey is sealed in these jars while hot there will be no annoyance from granulation.

For exhibition purposes and a fancy trade nothing on the market compares with these jars. Put up your honey in a neat, attractive package, and sell it at a good price.

The fact that the molds are constructed for making the jars by hand instead of by machine, and the addition of the aluminum caps, make the jars somewhat more expensive than the ordinary jars. They are made in four sizes square and three sizes round, as shown in the illustration. We can supply them either from Medina or from Philadelphia at the following prices:

¼ pound Square Hershiser Jars, doz., 50c; $5.40 per gross.
½ pound Square Hershiser Jars, doz., 55c; $6.00 per gross.

1 pound Square Hershiser Jars,	Dozen, 80 cents;	$ 9.00 per gross
2 pound Square Hershiser Jars,	Dozen, $1.00;	10.80 per gross
½ pound Round Hershiser Jars,	Dozen, 60 cents;	$ 6 60 per gross
1 pound Round Hershiser Jars,	Dozen, 75 cents;	8.40 per gross
2 pound Round Hershiser Jars,	Dozen, $1.10;	12.00 per gross

These prices, although rather high in comparison with other jars, are as low as can be made on hand-made jars, and afford us a smaller margin of profit than other styles. Order a sample dozen of each size and be convinced.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., DEC. 4, 1902.

FORTY-SECOND YEAR
No. 49.

WEEKLY

THE LATE DR. A. B. MASON.
(See page 772.)

THE AMERICAN BEE JOURNAL

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IMPORTANT NOTICES.

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The National Bee-Keepers' Association.

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

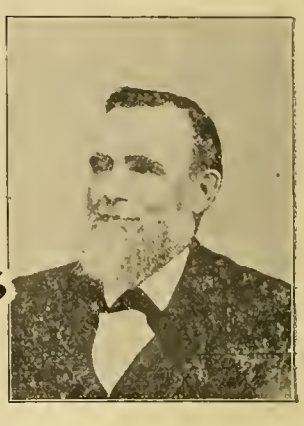
NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents, or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Forty Years Among the Bees

By DR. C. C. MILLER.



DR. C. C. MILLER.

The above is the title, and name of the author, of a new bee-book which will be ready some time in January, 1903, as it is now in the hands of the printers. It is a book that every bee-keeper in the world that can read English will want to own and read. It will contain over 300 pages, be bound in handsome cloth, printed on good book-paper, and illustrated with over 100 beautiful original half-tone pictures, taken by Dr. Miller himself. The book will show in detail how Dr. Miller does things with bees.

The first few pages of the new book are devoted to an interesting biographical sketch of Dr. Miller, which finally tells how he happened to get into bee-keeping. Seventeen years ago he wrote a small book, called, "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters.

How to Get a copy of Dr. Miller's "Forty Years Among the Bees."

The price of this new book is $1.00, postpaid; or, if taken with the WEEKLY **American Bee Journal** for one year, BOTH will be sent for $1.75.

Or, any present regular subscriber to the American Bee Journal whose subscription is paid in advance, can have a copy of Dr. Miller's new book *free as a premium* for sending us **Two New Subscribers** to the Bee Journal for one year with $2.00. This is a magnificent offer. Better send in the new subscriptions before Jan. 1, so they can begin with the new year. Or, if sent at once, we will throw in the rest of this year's numbers of the Bee Journal free to the new subscribers.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., DEC. 4, 1902. No. 49.

Editorial Comments.

Non-Swarming Bees.—Few things have advanced so rapidly in general favor as forced swarming by shaking or brushing. A good many seem to regard it as the Ultima Thule, resting content to seek nothing further. Others, while yielding no whit in their appreciation of the value of forced swarming, will still continue to attach importance to the encouragement of non-swarming tendencies in bees, or rather to the repression of swarming tendencies. In a paper at the Denver convention, W. L. Porter said that in running out-apiaries one of the two important things to be considered was "that a stock of bees may be carefully bred which is not predisposed to swarm."

It is entirely possible that forced swarming itself will tend in the direction of breeding out the swarming tendency, but there should be no let-up in the selection of the best stock in breeding, and one of the characteristics of best stock should continue to be considered freedom from a tendency to excessive swarming. Forced swarming is a long step in advance over natural swarming, but it is well that there are those who do not consider it the final good.

Must Bee-Cellars Be Dark?—The general teaching has been that absolute darkness was a matter of first importance. A few, however, have testified that at times the full light of day might be allowed to shine into the cellar without harmful results. The Canadian Bee Journal gives the testimony of quite a number to this effect, some holding that up to February darkness is not essential, but that later it is important.

The truth probably is, that the matter is entirely dependent upon conditions, the time having nothing to do with it only as the change of time brings a change of conditions. Note a colony of bees upon its stand in the apiary. When a day comes so cool that the thermometer does not rise above 45 degrees, the bees do not offer to stir out of the hive all day long, even though the bright sun shines directly into the entrance. Why should they any more fly out at the same temperature in the cellar?

There are two answers to the question. First, the quality of the air. Outdoors it is always pure, in the cellar not always. Second, the overloaded condition of the bees' intestines. Outdoors the bees have had frequent opportunities for flight; not so in the cellar. Let the bees be confined to their hives when outdoors a sufficient length of time to have their intestines loaded, and they will fly out at a much lower temperature than if they had had a flight the previous day.

But why discuss the question? Why not keep on the safe side and keep the cellar always dark? Just because it is quite possible, if not probable, that the safer side may be to let light into the cellar when conditions allow. Darkness continued is not a good thing for the health of man or beast, and it may not be for bee. When bees are first put into the cellar, it often happens that for days the cellar may be left open day and night without the bees flying out, and so long as the temperature does not run down below 45 degrees, and the bees show no disposition to fly out, it is pretty sure that the light and the fresh air will do good and not harm. Let a little watch be kept, and if the bees begin to fly out in the bright sunshine, then close the cellar, only to open it again as soon as darkness comes on to keep them in, or rather, when the brightness of the day begins to fade in the afternoon.

Especially is it important to open up the cellar when warm spells come in winter or early spring. The warm, light air outside will not force itself by its weight through the crevices of the cellar-wall as will colder air, so at such a time the air of the cellar becomes foul. Open it in daytime, and the bees will rush out of the hives. But open it when darkness falls, and let it remain through the night, so that the cellar may be filled with fresh, pure air, and the bees will remain quietly in the hives for some time after it becomes light in the morning. As soon as the bees begin to fly out close up the cellar, only to open it again in the evening if it is warm enough.

Instead of continuous darkness, the desideratum may be light whenever it will be endured, and fresh air which will be endured at all times.

Knife vs. Scissors for Clipping Queens.—Our genial afterthinker suggests on page 746 that some leaving-out-Hamlet business had been going on at page 643, his idea being that the chief objection to the use of scissors was the danger of cutting off a queen's leg. It had not occurred to us that there was any serious danger in that direction, and a note from one of the veterans who has clipped hundreds of queens—yes, probably thousands—shows that "there are others" who have never thought of any special danger from leg-clipping. Here is what Dr. Miller says:

"Has not our friend who takes the forethought to prepare us so delightful a feast in the way of afterthought, struck a new thing when he suggests that the principal objection to clipping with scissors is the danger of maiming the queen? I think Mr. Doolittle has been the leading advocate of the knife, and if he has ever suggested that maiming was likely to occur with scissors, he has certainly not made it the prominent objection. I'm not sure that I ever saw the objection raised before. I think there would be no excuse except extreme carelessness for taking off a queen's leg with the scissors. I have been clipping for a great many years, and I think in all that time I took off a leg for just one queen. That merely proves that I am not as careful as I should be, for there is never any need to make the cut until the scissors and legs are in such a relative position that there is no possible danger. Neither would it be such a terrible thing to take off a leg. I have had quite a number of queens that were born minus a leg, which, nevertheless, did excellent work."

The danger of making five-legged queens having now been brought prominently to the front, it may be left to

Messrs. Hasty, Doolittle, and Miller to fight out the case on its merits, suggesting that each bee-keeper be allowed to try a few thousand queens each way, and then pursue the plan that gave him the smallest number of amputations.

"Two Defects of Bee-Literature" is the caption of a thoughtful article in the Progressive Bee-Keeper, written by F. L. Thompson. One of the defects is the lack in bee-papers of an index sufficiently full and of a character to allow the reader easily to find that for which he is seeking. The other is the lack of a digest of the things of value to be found in other bee-papers. Mr. Thompson gives pretty full instruction as to how this should be done, and, indeed, does this so well that one is led to think, "Well, Mr. Thompson is just the man to do this work," when Mr. Thompson dashes all hope in that direction by saying:

"I should not care to undertake it unless I were an editor myself, for the pay would be sure to be inadequate; and if I were an editor myself, I would not care to hire it done, for then it would be almost certain to be done inadequately."

But excellent editorial work is done on our dailies and other periodicals by editors who are employed to do special editorial work, and if a man were employed to edit a department giving a digest of matters contained in other papers, why would he not be the editor of that department?

The task, however, that Mr. Thompson sets for the one undertaking such a compilation is a difficult one. He says:

"Absolutely everything that is of any value to bee-keepers at large must be included, and fairly set forth whether the compiler thinks it of any value or not; he must, for the time being, see things from everybody's point of view."

He must include everything of value, whether he thinks it of value or not. How is he to know it is of value, if he does not *think* it of value? How can he "see things from everybody's point of view?" A hard task, indeed.

The Weekly Budget.

Mr. F. A. Snell, of Carroll Co., Ill., gave us a brief call when in Chicago, last week. Mr. Snell is one of the oldest readers of the American Bee Journal, having begun in 1866, and is still at it. And he seems to be as much interested as ever, too.

John M. Rankin resigned his position as foul brood inspector of Michigan, to accept a more lucrative position in a sugar-factory. It is a great pity that a young man of such fine ability should be lost to the interests of bee-keeping. Very likely, however, he may be found drifting beeward again.

Mr. Frank B. White, our capable advertising manager, we notice is on the program of the Minnesota State Horticultural Meeting, which meets Dec. 2, 3, 4 and 5, in Plymouth Church, corner 8th and Nicollet Aves., Minneapolis. Mr. White's subject is, "Practical Advertising for the Fruit-Grower." He will give his hearers something good. He always does.

Mr. D. W. Working, of Denver, Colo., who did so much toward making the last National convention a success, spent a few days in Chicago recently. It is a pleasure to know Mr. W. But you can't get acquainted with him all at once. It takes time, and several times, at that. We regretted that he could not be here at the Chicago-Northwestern convention this week. He was secretary of the Colorado State Bee-Keepers' Association for nearly two years, his term of office expiring last September.

Illinois State Association.—The officers elected at the 12th annual meeting of the Illinois State Bee-Keepers' Association, held at Springfield, Nov. 18 and 19, are as follows;

President, J. Q. Smith. Vice-Presidents: 1st, Miss L. C. Kennedy; 2d, S. N. Black; 3d, S. T. Crim; 4th, Geo. Poindexter; 5th, P. J. England. Secretary, Jas. A. Stone, Route 4, Springfield. Treasurer, Chas. Becker.

Secretary Stone reports the usual attendance and good time.

Biographical.

DR. A. B. MASON.

Nov. 20 we announced the sad news of the death of of Dr. A. B. Mason by an explosion of natural gas that had escaped from the stove in the kitchen, whither he had gone, on Oct. 30, with a lighted lamp. The burns and shock to his nervous system resulted in his death on Nov. 12, and he was buried on Nov. 14.

We had known Dr. Mason for nearly 20 years, and quite intimately for over 10 years. While the writer was for two years President of the National Bee-Keepers' Association Dr. Mason was Secretary, and we planned the two annual programs together without a ripple. And when we were elected as his successor at Denver, in September, he referred very kindly to our work together in those other years.

Dr. Mason was born in Erie Co., N. Y., in 1833, and was raised on a farm. When 17 years old he taught school, and then attended Beloit College, Wis., for several terms. He then began the study of medicine, and attended lectures at the University of Michigan in 1857 and 1858. But the practice of medicine was not to his taste, and having studied it in connection with medicine, he adopted denistry as his profession, and continued to practice it throughout his whole life.

In 1862 he moved to Waterloo, Iowa, and was president of the Northern Iowa Dental Association for two years.

Dr. Mason was prominently active in religious work. He united with the Baptist church when 18 years of age, and was active in filling different offices in the church. At one time he was a church clerk, a trustee, and clerk of the board of trustees, besides being a Sunday-school superintendent. In Sunday-school work he was prominent, his activity extending to neighboring counties.

He was pronounced in his temperance principles and efforts, and held tobacco in much the same contempt as alcoholic liquor. His temperance creed extended to the use of tea and coffee, and neither he nor his children used either.

His interest in bee-keeping began in 1869, at which time a brother left in his care two colonies of bees till convenient to move them. Increase of interest and increase in number of colonies continued until in 1873 he made his bees an important source of revenue, severe attacks of rheumatism making close confinement to office-work objectionable.

He was well known as prominent in apicultural matters in Ohio, to which State he moved in 1874, locating in the vicinity of Toledo. In 1882 his apiary was infected with

foul brood, but he succeeded in curing it so effectually that there was no return of the disease.

He was the leading spirit in securing prominence for apiculture at the Tri-State Fair which was held yearly at Toledo, and was the efficient superintendent of that department. He was also superintendent of the Apiarian Department of the Ohio Centennial Exposition, which took place at Columbus in 1888.

For four years he was secretary of the Buckeye Union Poultry Association, although, perhaps, not generally known among bee-keepers as a poultry fancier.

In 1887 he was elected president of the National Bee-Keepers' Association (known by another name at that time), to which office he was re-elected the following year. For the past seven years he has been secretary of the same body, and occupied that position at the time of his death, his term expiring with the end of this year.

Dr. Mason was a man of fine appearance and commanding presence, and was always a conspicuous figure at the National conventions, his jovial manner always adding interest to the meetings.

We feel a personal loss in the death of Dr. Mason, and we are sure the old American Bee Journal also has one less admiring friend. But they are fast passing to the Other Shore. Only a few more years, and we who now remain will be called to join "the great majority" who are constantly assembling there. Until then we can only fill the years with patient toiling, each doing his duty, and thus perfecting such characters as shall be worthy an eternal existence beyond the tomb.

Convention Proceedings.

THE DENVER CONVENTION.

Report of the Proceedings of the 33d Annual Convention of the National Bee-Keepers' Association, held in Denver, Col., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 760.)

Mr. Hawley—On the question of this package, in my locality, it is quite different from that in the East, I think. I have sold it in 60-pound cans, because a great deal of our honey goes by carload lots, and goes to a foreign market, such as Chicago and Cincinnati, but when it comes down to the retail trade I must say that the price of the glass jar and the price of the tin convinces me that the paper package is the coming package for honey to reach the homes of the people, on account of its cheapness, and on account of the handling. I have quite a number of paper packages, and I use at the present time what we call an oyster-pail—a handy package; it is a very nice package. Mr. Aikin has gone a little further than I have in experience, but in my locality and market one firm alone ordered 4500 pounds of honey, and they placed it in the tin pails, but they said to me, "Last year you gave us about five dozen odd, handy packages, and we want to have it that way. We are convinced by the way they went off, and the way people came back after them and called for them again, that that is the only package."

Now, as to the 60-pound cans; probably I have in the last five years marketed 90,000 to 95,000 pounds of honey. If I put that in those paper packages, or paper oyster-pails, or 5-pound pails, I would not have had it all sold to-day. Consequently, I think we have to study our conditions, and if we are going to ship, the great amount of our honey has got to go in 60 pound cans.

M. A. Gill—Mr. Aikin very conclusively and concisely covered the question, showing that he was doing the best for his location, showing that it is a matter of locality, the same as in production. Mr. York has done the same thing, and I want again to say it shows that it is a matter of location. Every bee-keeper we have heard say something says he can't produce what he can sell. Then, isn't it time to drop this question and talk a little about production, so that we can get up to that point?

Mr. Abbott—I have had a little experience here, and I want to touch on Mr. Aikin's paper; it said that it required an expensive plant to put up bottled honey. I think my kitchen stove cost me, second-hand, about $10, and I don't know how much the wife paid for the other paraphernalia we had around there. I wouldn't undertake to tell how many thousand pounds of honey I have put in bottles, and that is all the expensive machinery I have ever had. If you think you can't bottle it without expensive machinery, it is all a mistake.

Some men think they can't start in business without a lot of money; they invest about $18 in an office-desk, and start out, and in a week or two the sheriff has his sign on the door. We don't have to have expensive machinery to do business. The fellow that has all the machinery to sell would like to make you believe you have to have it. I sell apiarian supplies, and all the foundation that is put in the sections in my office is put in with a screw-driver. I sell foundation, first-class color. The fellow that comes in says, "Let me see you operate these machines." I say, "I can't; I don't know how." He wants the machine, and there it is, and I can put in foundation faster, with the help I have, with a screw-driver than I can in any other way. It doesn't always require expensive machinery to do things.

Now, on the other hand, when you go out before the public with an article there is another question that comes into consideration; the question of cheapness must not cut too much of a figure. I got to thinking about it, and about such packages of honey as I saw this morning put up in papers, and I just imagined about 150,000 men who have to go out to the suburbs on the cars, and each of the men with four or five of those bologna-sausage packages in his pocket. I just thought what a time they would have, how they would run, how they would sweat, and what various things they would do and say! The truth of the matter is, a package like that in a city, or in any large market, is not a practical thing; you couldn't get it home without it running all over your buggy on a hot day. If the mercury was down 30 below zero, and you handled it carefully, it might be all right; but carry it in your hand, or in your pocket, and in a little while it is simply all over the paper. A man would rather pay 25 cents and have it in a can than get it for 5 cents in a paper sack and have it smeared all over creation; he would be just like that fellow that sat down with his girl to tell her something sweet, and had trouble. There would be more people who would pay for the fancy package, if the fancy package appeals to them. The idea that because a man is poor he must have something cheap is all a mistake. I don't care how poor a man is, he must have a good package if he wants it, and the people who work for $1.50 a day will buy that honey as Mr. York puts it up just as quickly as they will buy it in a paper bag; in fact, they will buy it quicker in our country, after they carry it home and have the experience I have told you about. The price doesn't cut any figure. Extracted honey has retailed at 25 cents a pound in St. Joseph for 20 years, and the price has not been changed, and the people buy it; they come into my office and say, "I bought honey so and so," and they are laboring people. I know what they paid for it, because the price is put on the package before it goes out. They have paid 15 cents for a half pound of honey for 20 years, and they are paying it to-day, and they will go on paying it; as long as E. T. Abbott's head is above the sod, and his name is on a bottle of honey, it will never be sold any cheaper than that in St. Joseph; and that can be done in any city in this country if you have a salesman—an energetic man—to sell it.

J. B. Adams—I think the last speaker lets his imagination run considerably sticky. I have had considerable experience with the bologna-sausage package for the first time this year. I can put up all the honey I can get in bologna-sausage packages and sell it at a good figure, satisfactory to me, satisfactory to the man who eats it, and he doesn't have to pay for the glass that he throws away; and I have never had a complaint about them sticking in their pockets going home; it is always delivered in good order, and gives perfect satisfaction.

Mr. Aikin—I am up on the ridge-pole yet. I always thought that there was something wrong with some of the

eastern cities, and I am glad that our friend from down on the Big Muddy has given us just the information that we wanted; he has told us how intensely hot it is, and it is getting hotter and hotter down there. Surely, that is the place to liquefy honey; I turn to my friend from Chicago, and my friend from St. Joe, who are in such a hot place already that they can't carry a package of granulated honey in a paper-bag without it running all over. How will it be when they put one of those glass things in their pocket, and when that fellow that you hear and read about so much begins to get after them, and they get to sailing around the corner, and whack it against something hard, I guess it will be running all over, too. They forget it takes in the neighborhood of 150 degrees to liquify honey, and it doesn't get so hot in this country, nor it doesn't get so hot in many of the towns and cities where I send my honey.

I want to tell you what I did last year. I packed in lard-pails over 20,000 pounds of extracted honey, let it candy slightly, and I want to tell you that now, and for about six months, I have not been able to supply my customers; my own town is without honey; my customers in towns and cities all around the country are without honey; I have reached out into a field, as I indicated in my paper, which is as wide as the commercial world, and because there is nobody in the field. I notice that my friend from Fort Collins, and another from Longmont, and a good many others, are beginning to fall in line; the people from that hot country have been talking to me and admiring those paper-bags. I went back a bit ago to find a sample bag without honey in it. I brought in several, but I don't know what has become of them; I guess they have gone off to Chicago or St. Joe, and the next thing you will hear about them putting up honey there in that shape.

Now, this is a practical question, it is a question everyone of you is interested in. I know just as well as you know that when you produce extracted honey—I am talking to producers—and put it up in 5-gallon cans, and undertake to sell that honey and get living prices out of it, you can't do it. You may sell a limited amount to your storekeeper, and he will lay the can up on his desk or on a box or something, and he will unscrew the top and run out a little and spill a lot of it, and you will sell him two or three times; after that how much will you sell him? Just what he can sell in the original package, because he will not retail it if he has to draw it out from the can, and it is only a little while till it has candied. A few days ago there was a German came into my honey-house, and he had gotten some honey I had melted a few days before, but when he came back for the second lot that honey was candying, and when I took out some of it and showed him, he said, "No, no; I don't want that; you put flour in that; you mix flour in it." And another one said, "You mix lard in it." Just a little bit of talk, and a little bit of persuasion, showed them that it was honey; they took it and went home, and came back and bought again.

In my own town, in my own market, the retailers, the grocerymen, do not want honey in liquid shape; they want it candied, and they want it in a package; they can just hand it out, and there is just so much profit on each package. There is no leakage; and this honey, when it is candied solid (speaking of the honey I produce, and the honey others produce in this country), is hard, and if you put it in a paper-bag you could stick it in your pocket and go around the corner just as fast as you want to, and it won't leak; it will leave the surface of the honey, where the paper touches it, smoother than would be the skin of a sausage; that is how it comes out. It is a fact, if I would send my honey down to that Irishman who publishes the American Bee Journal in Chicago, he would pay me a price that would net me about four cents a pound. Isn't that about right?

Mr. York—I'd pay you more than that.

Mr. Aikin—Just now you will; and the same if I send it to the other city. This man in St. Joe wouldn't do a bit better. Yet, I have been selling my honey in lard-pails and paper-bags, and almost anything that will hold it, and getting from one to three cents a pound more than they will get me for the same product.

Now, producers, each one of you wants to follow my advice, and do not pay any attention to what that man told you, but put up your honey in the package that will get you the most money, and get it to the consumers in the shape that will be the easiest for them to carry home at the least expense.

As to this package here (Mr. York's), I didn't say one word in my paper against putting it up in this shape for any trade that demands it in that way. There is a place for it; there are people who will pay more for that because it looks nice, and because there is not one, perhaps, out of this whole audience could pay the same price for it. Some people glory in paying more for a thing than the thing costs—than you and I can pay for it—but there is a great horde of people all over this country, east, west, north and south, that do not know what honey is. Mr. York told you about it; he said our honey would hardly make a single grain to each one of the population of this country.

Mr. York—For the Irishmen, you mean.

Mr. Aikin—The Irishmen. There is a vast amount of people in this country who want honey so that they can use it, but if you put it up in this shape they couldn't buy it. Why? In the first place, their salary won't allow them to do it; and they will turn around on the other side of the counter here, and there is a bag of granulated sugar; they will take home 25 cents worth of granulated sugar, and they will put a little water in it, put it on their cakes and eat it, and your honey and glasses will stand on the shelves. That is true in the towns and cities all over our country. There is a vast population that will use the goods if it is at a price that they can consume it; and I have put goods of my own packing in lard-pails, and candied, into the city of Omaha and sold it there, and I am selling honey to-day, or would be if I had it (I am sorry to say I can't do it this year), I could sell it anywhere between here and the Mississippi River; and my customers are writing me almost daily to know when I am going to send them some more of that honey. And so it goes.

The market is before you, if you will only take advantage of it; but you can't sell to those people in 5-gallon cans or barrels, because you can't get to them except at a price five times what sugar will cost them, and then it becomes decidedly a luxury, and sells just as I have indicated in my paper.

J. A. Green—Like Mr. Aikin, I am on the ridge-pole, but Mr. Aikin appears to have gotten off on one side, and I am on both sides. I have sold honey extensively, and I have observed the market, and I can tell you that there is a market where it would be useless to attempt to sell honey in any other than such a package as that on the desk there (Mr. York's); such a package as that is attractive, and it is small, and people will buy it for those reasons when you couldn't induce them to look at candied honey in a tin-pail or a paper-bag. That jar is useful after the honey is taken out, and many people will take account of that, and they will pay more for it on that account.

Now, I have sold a great deal of honey in pails, and I have experimented somewhat with it in paper, and undoubtedly in some places there is a demand for it. Mr. Aikin has told us that there is, and it is undoubtedly true, and I just want to emphasize a little more what Mr. Coggshall has told, and what Mr. Aikin has said in regard to Mr. Abbott. If you produce a good article of extracted honey, you can get it candied so dry and hard that you could wrap it up like a bar of soap, or anything of the kind, and carry it home without any danger of it ever melting or breaking; you get a good, ripe article of extracted honey, and when you think it is beginning to granulate then stir it up well and run it through the honey-gate while it is in that condition; let it go as far as it will go so that it will run well, then run it into your packages, and it will be hard, and white, and dry. I know this, because at one time I experimented extensively with a view to putting it up as confectionery, as caramels, and I found the only objection to doing that was the need of some machinery to do it cheaply enough. I could put it up and it would be just as hard as caramel in the candy-store.

REVISING THE CONSTITUTION.

Mr. Abbott—I would like to make an amendment. Before I make it I will read a section of the Constitution: "This Constitution may be amended by a majority vote of all members voting, providing notice of the said amendment has been given at the previous meeting." It does not require any discussion or anything of that kind. I desire to give notice now that Article IV, Section 1, will be amended, or an amendment to it will be offered as follows: "And no member of the Board shall hold any other office in the Association, and no State shall have more than one Director; in all cases when the vote shows that more than one Director from any State has been elected, the one who receives the highest number of votes shall be declared the Director for said State, and the vacancy shall be filled by the Board selecting the one who receives the next highest number of votes who lives in a State not represented on the Board at that time." Article V, Section 8, will be amended so as to read as follows—the last clause: "For any cause

they may deem sufficient, and fill any vacancy which may occur." Article VII, on Vacancies, will be amended as follows: "Any officer who wishes to resign shall present that matter to the Executive Committee for their action." This is not a matter for discussion. I propose to offer these to be presented to the members of the National Association at the next election, in December.

Pres. Hutchinson—I see there is a very fine exhibit in the alcove, and some of us Western or Eastern people have been asked to pass our opinion upon it after dinner. Messrs. Root, Hutchinson, Dadant, Hershiser, and Mrs. Booth are the committee.

Dr. Miller—This matter that has been presented by Mr. Abbott is an important one, and I believe good will come from it, but it is necessary for us to have time to think it over, and that is one reason why it is given to-day. The electing of one or more members of the Board of Directors from one State is, in general, an objectionable thing, they should be over the whole country. Here comes, however, what might be objectionable also in that. The representation should be somewhat in accordance with the numbers. If a State has a very large number of members, and another State has almost no members, there would seem to be an element of unfairness in allowing one Director to have such a very small representation; and if there is no other way of getting at it, I would give notice that an amendment would be offered, "That no State shall have a Director unless such State shall have 50 members of the Association within its bounds." I have not had time to think about it, only it would seem to me fairness would require something of that kind.

Dr. Mason—I could give a little idea by stating how many States have 50 members and over.

Dr. Miller—Mr. Abbott says to take that as part of his notice.

Dr. Mason—California, 136; Illinois, 124; New York, 146; Wisconsin, 88; Colorado, 51; there is no other one that has 50.

Mr. Abbott—I am perfectly willing to put that in. There has not been a change suggested but what I am willing to embody in my notice, and I don't know but what I will embody a good deal more.

Dr. Miller—After Dr. Mason's statement I should judge 25 would be a better number than 50.

Mr. Marks—I wish to say in regard to Dr. Miller's motion, that you are limiting the number of Directors to a State to one. As far as the State of New York is concerned, I might say that that is a reflection upon us; we have had the largest number of members in this organization ever since it was started. There is no time since it was organized, since I have been able to get hold of the list of members, but what we have had from one-fifth to one-sixth of the members in this Association, and since it was organized we never had a Director in this organization up to two years ago, and now some of you are finding fault because we have got, you say, more than we are entitled to. Perhaps we have; I won't deny that perhaps we are not entitled to any, but when you strike at a State that has had from one-fifth to one-sixth of its members, and which up to two years ago never had a Director in the Association, you are hitting a pretty hard blow. You are limiting the number to 25. Let them go out and get other members; it is members that make this organization. Come in here with your 50 members, and you are entitled to a Director. You can get them. It is members we want; it is members that are going to make this organization. If you want to increase the membership of this Association you have to get some inducement to do it; don't let a man come in here and be a Director of this Association for life with perhaps a dozen members in his State.

Dr. Miller—I believe that I have, perhaps as early as any one, made some objection in this direction, and it has certainly not been with any thought of striking at New York. Now, to come right down to it, the thing has stood a little in this way: The Directors have been elected year after year, and whoever has been in when the election comes—there have been no nominations, and they have a kind of a life tenure of office. I have been a Director—not ever since I was born—but ever since the Association was born, and unless I die I don't see any other way of getting out of the thing as yet. There are two of us in Illinois, and when I have any objection to it I am striking just as much at Illinois as at New York; and there are two in one family in Ohio. Those things, in some way, I would like to see arranged so that we could have some kind of an understanding, and not have the thing run on with the appearance of being in the ring. It looks like that to outsiders, that we have got there, and the thing is fixed so that we can stay there, and you can't help yourself. Unless you get some other rigging on, I am going to stay a Director as long as I live.

Mr. Taylor—Mr. Abbott gives notice of an amendment, that no State shall have more than one Director, and I suggest that he add, "And that no Director shall hold the office for more than two terms consecutively."

Mr. Abbott—I will take that.

Mr. York—I think Mr. Marks is wrong in saying that his State had no representation until two years ago. If I remember correctly, Mr. Doolittle had always been on the Board of the National Bee-Keepers' Union, which was merged into this Association. Another thing, the whole South has no Director whatever. If we put this limit of 25 members, they will get a hustle on and come in. Another thing, you can't have more than 12 Directors, so there might be 20 States that would have 50 members each, but they couldn't all have Directors, only 12 of them. I think we ought to do something for the South; we have no Director there.

Mr. Taylor—It seems to me, in this discussion, we are doing the work that must be done a year hence. We have notice of these amendments, and the form in which they go in to-day does not bind the Association to adopt them; if it adopts them in the form in which they now stand, amendments can be made, and they can be disposed of in a way that the Association sees fit at the next annual meeting. The necessity for this notice, and the importance of it, is that it gives all the members of the Association notice of the subject-matter that is to come up and be amended in the Constitution, and every member has a year in which to consider it and he can come—

Mr. Abbott—It is only till the coming December.

Mr. Taylor—I supposed it was at the annual meeting.

Pres. Hutchinson—No, it is at the next election, in December.

Mr. Taylor—Then it is very important that these should be gotten in form.

Mr. Harris—To cover this ground I move that a committee of five be appointed by the chair to take this matter up, look into it most thoroughly, and report at the next annual convention for their adoption or rejection.

Mr. Darby—I second that.

J. P. Ivy—I hope the motion will not prevail.

Mr. Abbott—I simply say that I do not waive my rights. I have given the notice, and I can't have it put off for a year. This amendment is going to be sent to the membership in December, no question about that. I am waiting, but you can't make any motion to cut that off because—

Mr. Ivy—I hope this motion will not prevail; if it does it practically does away with the whole Constitution. The Constitution says that any member has a right to propose an amendment at any of the annual meetings, and it is the duty of the person proposing that amendment to reduce it to writing and hand it to the Secretary, and there is no need of us discussing this proposition. If Mr. Abbott has an amendment he wishes to place in the Constitution, it is his privilege; if I, being a member from Arizona, have an amendment I wish to submit, it is my privilege to do so. There is only a small handful of the members of this Association here to-day that are permitted to vote upon this, and I contend, under our Constitution as it was adopted originally, it was intended to submit these amendments to the whole of the voters of this Association, not to the members who are present, and I hope the amendment will not prevail, and that Mr. Abbott will reduce his amendment to writing and hand it to the secretary and let it be submitted to the voters of the National Bee-Keepers' Association.

A. C. Van Golder—I move we adjourn.

Dr. Mason—I second the motion.

C. P. Dadant—This matter should be put before the members right away—put the amendments before them so that our members may read and judge of this. *We* are not going to decide this; the *members* must decide it, and we must try and be peaceable, and be kind to one another, and bring the matter forward in a way that will be intelligible to everybody.

Mr. Harris—With the consent of my seconder, I would like to add this, to be harmonious, that a committee be appointed by the chair to look into this matter, and see what it is going to do in regard to our Constitution and By-Laws, report this afternoon, and then let the discussion come up. That is only fair and right, that they may go into the question in the proper way.

Mr. Taylor—I don't understand how it can be proper for a committee to act upon these notices. A member has

the right to give notice of any amendment he sees fit to propose, and it would not be his notice if a committee changed it; if the committee has an amendment to propose, and gives notice of it, that is another thing—

Mr. Van Golder—I rise to a point of order.

Pres. Hutchinson—The question is, Shall we adjourn?

Pres. Hutchinson then put the motion to adjourn, which, on a vote having been taken, was declared carried, and the convention adjourned until 1:30 p.m.

(Continued next week.)

Contributed Articles.

Brushed Swarms—Locality—Bee-Keeping Made Easy.

BY F. GREINER.

THE brushing or shaking off of bees to place colonies in the condition of a young swarm is being more and more recognized as *the method* to handle the bees in out-apiaries. The idea of the original inventor (Gravenhorst, of Germany) was to make the strong colonies as strong as possible at the expense of the weaker ones, and when they had arrived at the danger-line (swarming-point), then to shake the bees off their combs and let them build combs in an empty hive. The brood-combs gained were utilized to bring the next strongest to the same state of populousness, and then shake these off and put them into empty hives. This was continued to the end, or till the season came to an end, or the yard had been gone over.

The conditions must have been different with Gravenhorst than they are with us. We don't find it advisable to "brush" bees till the honey season is at hand; then we would like to shake or brush all colonies if they were all good and strong. It may be necessary to hold back some of our best or most populous colonies, either by taking a frame of brood from them occasionally and substituting empty comb, or by giving more combs by enlarging the brood-nest. A colony brushed or shaken off in May cannot be expected to be in the best condition for storing by June 20. The colony shaken off on the last-named date will be in excellent condition for work then.

Our object is not the rearing of the bees, but to produce honey, and our management much be in accordance therewith. He who can so manage as to exchange all surplus bees, grown during the season, for honey, and come out with the same number of colonies he started out with, has solved the problem best. Many are the inventors who hit on the plan of shaking swarms simultaneously, or without any previous knowledge—it is to their credit; but Gravenhorst undoubtedly was the first who made it known to the world.

In practicing the method locality plays an important part, as it does in many other manipulations. The shaken-off bees *absconding* is, for instance, unknown to some, whilst with others precautionary measures have to be taken or else 20 percent of the brushed colonies leave the bee-keeper. There is really too much at stake to run any chances. One single swarm held from going to the woods will pay in honey for all the entrance-guards needed in a large apiary, or pay for the trouble of keeping a brood-comb in each prepared hive for a few days. The brood-comb, or rather comb of brood, does not always hold the bees from absconding in my own locality, and the entrance-guard has failed once with me. This, however, does not hinder me from applying these means. It is the best we can do, as far as I know.

In some localities a hive full of brushed-off brood-combs may be set up on a new stand—the hatching bees will take care of things. I learn this from the writings of others, for I have never tested it myself, not being of that venturesome nature. I prefer to make a sure thing of it, by placing one or more sets of brushed combs upon some colony, leaving them there from 6 to 9 days. Then they can be separated without the slightest risk of losing brood or starting a case of robbing. If the weather is very warm, and there is not much open brood in a hive, it may do to leave things to the emerging bees.

I believe more disagreements and disputes arise among bee-keepers on account of differences in localities than from any other one cause. This is more apparent the more I see of different localities and the bee-keepers residing therein.

When I was with Mr. W. F. Marks two weeks ago, I viewed his section honey with a great deal of—well, I could almost say, envy. Although it was produced in section-holders minus tops, the sections were free from propolis and stain. My own honey is principally stored in wide frames which protect the section on all four sides, but it could not compare with Mr. Marks'. There is no use in talking, a super that does not protect the sections all around is of no good here; it is all right with Mr. Marks.

BEE-KEEPING MADE EASY.

At the Chicago Bee-Keepers' Convention last winter one good friend gave his management of bees. It consisted, in short, of giving plenty of room—two extra 10-frame brood-chambers full of comb added below the hive containing the bees. It prevented all swarming.

Another friend remarked that he had just learned how he could go a-fishing.

If there are any lazy bee-keepers anywhere, or some others that would rather go a-fishing than work in the bee-yard, let them heed what Dr. Gandy said in Gleanings a short time ago. In substance it is: "Invest $60.00 in catnip and sweet clover seed, and sow it around your neighborhood. The bee-pasture will be so much improved that colonies will store 400 pounds of honey. Dr. Gandy also controlls the honey market, so that he obtains 15 cents per pounds for any kind of honey he produces."

Now the lazy bee-keeper must "get on to" this scheme; then keep 15 colonies of bees only, because the proceeds from them will be enough to furnish him with all the necessaries of life. It should certainly not take more than one day's work each week to attend to these 15 colonies, and he would have five days for fishing and one day for rest. Don't you see what an easy time the bee-keeper could have? Fifteen colonies of bees, each producing 400 pounds of honey would give a total of 6000 pounds. Sold at 15 cents per pound—proceeds, $900.

I would like to be in it. Ontario Co., N. Y.

Prolific Queen-Bees and Large Hives.

Read at the Minnesota State Bee-Keepers' Convention,

BY W. J. STAHMANN.

MUCH attention has been paid by queen-breeders to color and beauty of queens, and too little to the prolificness, comb-building and honey-gathering capacity of their progeny. When a practical bee-man wishes to improve his bees he does not as a rule look for beauty, but he does want to know something about their ability to yield dollars and cents.

Breeders of live stock have some wonderful improvements in their stock by careful breeding. Why should not bee-keepers do the same? It is certainly as easy, if not easier. I do not wish to give the impression that I think bee-keepers have not made much advancement along this line, they certainly have, and especially in color. But I do want to mention two very important points that I believe have been neglected, viz.: Prolificness of queens, and comb-building qualities of their progeny.

We cannot very well have a prolific queen without a large hive—the two, as a rule, go together. My experience is that a queen reared and allowed to lay eggs for the space of a week or more in a small hive, or having a small amount of bees, will seldom make a prolific queen, regardless of the stock she comes from.

Hence two things are essential in rearing prolific queens—a strong colony, and a large hive when she is about to begin laying. I also find that a prolific queen is injured by putting her in a hive too small for her capacity, or by confining her through a honey-flow. A prolific queen that has her brood-nest reduced to 4 or 5 combs through a honey season will seldom be the egg-layer that she was, and I am inclined to believe that where large hives are used and care is taken, when the young queens are about to lay, that they have a strong force of bees. In several generations the egg-laying capacity of queens can be increased, and on the other hand if kept in small hives the tendency is to degenerate and lessen the capacity of a prolific strain of queens.

Years ago I used quite a number of 8-frame hives—at one time I had 150 of them—and I also used the 10-frame

hive quite extensively. I noticed all along, year after year, that I got considerably more honey from the 10-frame hives, so I decided to try a 12-frame hive. I transferred six 8-frame colonies into the 12-frame hives, one having a young queen just starting to lay, and quite strong in bees; this was in the early part of the season, and that season all the bees bred unusually heavy, and it was also an unusually good season for honey.

The hive having the young queen filled all 12-frames with brood, leaving scarcely any honey in the brood-nest, and kept it full until fall, while the other five had only from 6 to 10 frames full of brood. This is when I first began to notice or believe that egg-laying capacity of a queen was made when she was young.

The next season I put in use about 100 11-frame hives, the frames having no bottom-bar, which for brood have a greater capacity than a 12-frame hive having bottom-bars.

I took particular pains to see what difference, if any, there was in queens from the 8-frame hives, and young queens that started laying in the large hive, and I was convinced that there was a vast difference in most cases, and since then, in rearing queens, if I neglect to give a queen the required amount of bees in time—that is, when she is about to begin laying—I find, as a rule, such queens inferior as to laying eggs.

I wish to speak about comb-building. Nine years ago I bought 10 colonies, and in this lot I found a strain of bees that would not fasten the comb in the sections at the bottom or sides, and as I had lost nearly all my bees the winter before, and was practicing natural swarming, I reared several queens and found their progeny did the same kind of work. I bring out this to show the inherent tendencies in bees.

There are bees that fasten the combs on all four sides of a section—fasten it before the comb is half finished; that makes comb honey that can be shipped with safety. This I consider a very important point in a good strain of bees, and one that should receive more attention than it has.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Bee-Literature to Begin With.

What literature in books or pamphlets would be best for a person to read who thought of venturing in a very small way in the bee-business? My husband and myself are thinking strongly of doing a little in the line of bee-keeping next spring. We are both inexperienced in that line of work, and would be thankful for advice as to what and where we can find such information as we may need.

NEBRASKA.

ANSWER.—The first thing for you to do is to get a good text-book on bee-keeping and study thoroughly. The "A B C of Bee-Culture," Prof. Cook's "Bee-Keeper's Guide," and Dadant's Langstroth are all good, and the instruction that you would get from any of these books is reliable. Either of them can be obtained at the office of the American Bee Journal.

You can hardly begin too soon being a regular reader of the American Bee Journal—an excellent journal for beginners, as well as for those the most advanced. If you do much at bees you will probably want to subscribe for one or more of the other bee-papers later on.

Beginning Bee-Keeping—Bee-Veils—Gloves—Miller Feeders.

Three years ago this winter I first became interested in bee-keeping from reading an article on the subject in a farm paper. I bought a copy of "A B C of Bee-Culture," also subscribed for the American Bee Journal and Gleanings in Bee-Culture, and these I studied diligently all winter.

In the spring I bought my first colony of bees; in fact, the first one that I had ever seen. I have continued to study the subject, also to talk with all the experienced bee-keepers that I chanced to meet, and have received much help from them. I have bought a few new colonies each fall since I had my first one, and now I have about 40 to put into the cellar this winter. I work for both extracted and comb honey, selling the former at 15 cents, and the latter at 20 cents a pound. The rows of white hives in our side yard are a good advertisement to the many who drive by, and this fall I could not supply the demand that I had for "some good, pure honey."

It seems strange that so few women are interested in bee-keeping, but I suppose it is largely because their attention is not called to it. Judging from my own experience there is no comparison in the amount of work between caring for a large flock of poultry and managing a moderate-sized apiary; and I certainly think the bees yield the largest profit for the time, labor, and capital invested.

1. Can Miss Wilson tell me why white veils are not worn instead of black ones?

2. Also, what kind of gloves does she use?

3. How is it possible to fix the Miller feeders so they will not leak even after the seams have been well paraffined? The two that I bought this fall from a bee-supply house were too long for a dovetailed super, and had to be shortened before they would go in at all.

Have any of the sisters used the Danz. hives for comb honey? I just commenced using them the past season, and like them very much.

I use a small force-pump to spray the bees in swarming-time, and in that way I can nearly always prevent them from going up very high, or out of my reach.

I hope we shall hear from many of our bee-keeping sisters in our new department. MRS. W. S. W.

Minnesota.

ANSWERS.—1. White veils are very hard on the eyes. Black being the absence of all color, it is the nearest looking through nothing that we can have. I never realized what a difference it would make until one day I forgot my veil when going to the out-apiary, and wore one made of white mosquito-bar all day. I assure you I was glad to get back to a black veil again.

In very warm weather the black veil will sometimes crock. It is a good plan to put a piece of white on the bottom edge of your veil, and use a white rubber cord in place of the black.

2. I use a light-weight buckskin, and like them very much. The more they are worn and washed the better they are so far. I suppose there is a limit to their wearing capacity, and some day they will wear out for good, in which case I hope to get another pair just like them. This is the first pair of buckskin gloves that I have had, and I have worn them a little over two years, and they are not worn out yet.

3. Try thick, white paint and let it dry well before using.

A Cheap Wax-Extractor.

And a good one, too. Take an old dripping-pan—or a new one; split open one corner, and your extractor is made. Put in it the scraps, pieces of combs, cappings, or whatever you have to extract. Better not put in too much at a time. Set the dripping-pan in the oven of the cook-stove, with the slit corner projecting out: the oven-door, of course, being open. Put a little stone or something under the end that is the farthest in the oven, so as to raise it half an inch, or an inch.

Slowly the wax will melt, and as it melts it will trickle towards the split corner, which is lowest. It will not do, of course, to have it fall on the floor, so you must have something standing on the floor for it to drip into. The result will be about as nice wax as you get from the sun extractor, which means it will be very fine.

The sun extractor is less trouble, and takes less time, but the dripping-pan extractor will work at a time of the year when the sun extractor is taking a vacation, and when, perhaps, you have more time to fuss with it.

Mice in the Bee-Cellar.

If you winter your bees in the cellar one of the first things to look after is the mice. While the bees are in a dormant condition, a mouse can do a great deal of damage. A mouse in a hive means holes in your nice combs, which will be filled by the bees with drone-comb next summer, unless you are very careful about it; honey eaten up, and possibly the bees themselves gobbled up.

It is easier to keep out than to get them out after they are once in.

A very good plan is to barricade them out of the hives

before the bees stop flying, with heavy wire-cloth having about three meshes to the inch, but don't use wire-cloth so fine that the bees can not get through it.

If you don't use the wire-cloth you must see to it that the mice are gotten rid of in some way, unless you are so fortunate as not to have any mice, which would be better yet. Peristent trapping will accomplish much. You can do very good work poisoning them, providing you are faithful about it, and see that fresh poison is put down every so often, and if they don't like one kind try another.

Strychnine is good. Cut a slice of cheese about a quarter of an inch thick, sprinkle it lightly with strychnine, and cut it up into little cubes. Put in a saucer, or on a bit of card-board, in a place convenient for the mice.

It requires some time and patience, but it pays.

Honey-Cookies.

One cup of honey, 1 cup sugar, 1 large cup of lard, ⅔ cup of sour cream, 1 egg, 2 teaspoonfuls of soda, 1 teaspoonful of cinnamon, ½ nutmeg, a very little cloves, 2 tablespoonfuls of melted chocolate.

If the cream is very good do not use so much lard. Part sour-milk and part cream will do if you do not happen to have enough cream, and the sour-milk used alone will give good results, but, of course, the amount of lard used must be increased accordingly.

Mix until you think they are about right, and then bake one for a sample. If not stiff enough, add a little more flour.

For frosting, take two cups of sugar; add just enough water to dissolve the sugar; add a small pinch of cream of tartar; boil until it will thread when you pinch a little between your thumb and finger. Take off and let cool a little. Stir briskly until it creams, and add about a tablespoonful of melted chocolate, stirring it in well. This recipe is original, has been thoroughly tested for years, and we think it excellent.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

MANAGING A LAYING-WORKER COLONY.

Getting something out of nothing—well, half mankind, and more than half womankind, are sure they can do it, and must aye keep on trying. But its getting something out of less than nothing, I suspect, to get something of value out of a colony with laying workers. Can't say I admire the method of W. Hickox, page 659. Like pretty much all methods that will work at all it disturbs and bothers a good colony—adds something to less than nothing and rejoices to find the result something. Also it looks to my eyes like a promising way to rear a poor queen—which same is an apicultural asset that may, or not, be less than nothing in value.

REV. W. F. CLARKE AND DR. A. B. MASON.

Some men are overvalued and some are undervalued by their cotemporaries. W. F. Clarke has seemed to me to be a man we have for long years very much undervalued. Not sure but we have gone fuurther and measurably frozen him out of print so far as apiculture is concerned. What personal qualities (if any) may have helped on this I am not competent to say, never having met him. I can sincerely feel his loss now he is gone, and it is fitting that I should lay a wreath on his coffin. Farewell to a fellow-worker; farewell to a friend of the exact truth; farewell to a man who saw and saw correctly, a great deal in this world that needed mending, and who deeply desired that it should be mended. Earth can ill spare such, they are so few. Page 660.

Of course I would have a chaplet for Dr. Mason, the all-around good man. His foes were the foes of all civilization and righteousness—and scarce a man besides them it would seem. "How blest the righteous when he dies!" We don't have to hunt with lanterns and optical instruments to find something good to say of him just for once. Page 739.

BEES AND PEAR-BLIGHT.

Makes me squirm—"Prof. Waite has proved beyond any question"—(Here's a small boy who never gets so badly floored that he cannot ask a question.) But our best science sharp, Prof. Cook, says it's proved that bees are the "chief agents" in spreading pear-blight. Sorry. Another fact in this matter is more pleasant reading to us. Notwithstanding bees scatter more pear-blight germs than all other culprits, the other culprits scatter so many that abolishing bees *is not practically of much use, if any.* When all the forest is dry and coals are flung, whether it's a million or a hundred matters but little.

A man seven miles high, eh? And the pear-blight microbe is such a little fellow that he is the antitype of that. Now do you realize he is? If he was as big as a man, a man to correspond would have to be seven miles high. To say that his length is one ten-thousandth of an inch sounds unimpressive to some minds.

Diluted carbolic acid to dip tools in when cutting away blighted twigs.

BORDEAUX MIXTURE—BEES IN GROUND-HOLES.

And the famed Bordeaux mixture is, Lime 4 pounds, Copper sulphate 4 pounds, Water 46 gallons.

Prof. Cook wants to know if others have known bees to take possession of holes in the ground. Can't respond on exactly that, but I once put several colonies into holes in the ground as an anti-swarming experiment. Failure. From a big hole in the ground they swarm allee same. Page 664.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Uniting Weak Colonies of Bees.

1. Would it be advisable to unite a weak colony with a weak robbed colony, rather than to unite the robbed colony with another weak colony?

2. At what time in the day should uniting be done?

3. Can it be done with perfect success by use of smoke alone? COLORADO.

ANSWERS.—1. I suppose the question is whether, when uniting two weak colonies, one of which has been robbed, it is better to unite them on the stand of one that has been robbed, or on the stand of the other. Having been robbed once, there is danger that the same colony would be robbed again on the same stand, even if reinforced by another weak colony; so it may be better to bring the robbing colony to the hive of the unmolested colony.

2. The time of day is not an important matter, but sometimes it is better to unite toward evening, so that foreign bees may not try to rob, and thus start bad feeling in the community. Yet a cool morning, when no bees are flying, is a good time.

3. No, not at all times.

Wintering in a Bee-House—Wax-Worms.

1. I keep my bees in a winter bee-house, with ventilator for occasional use. It is large enough for 60 hives?

I store my bees, 40 colonies, in pyramid shape on winter bottom-boards, which have an opening of four inches wide along the center and the length of the hive. The natural heat of 40 colonies during moderately cold weather in the winter is from 40 to 42 degrees. During extra-cold nights I fire up the stove in outer room, and let the heat go into this bee-room until it runs up to 45 or 48 degrees. Would it be necessary during the winter to put water in the bee-room for moisture? If so, to what extent?

My bee-house is built of 2 by 6 (2 by 8 would be better) with 2 by 8 joist under the floor (under floor, sides and the top to the peak of the roof filled with sawdust.) Sides are

papered and sided, inside drop-siding and coat of plaster, with ¼ inch space.

2. A few days ago I came across one dozen sections half filled in July. I was going to put them in a super to give it back to the bees. When I uncapped them with a table-fork, I found in all of them large spots where the fork went in without any resistance (mushy), and when I turned a section around, as much as a teaspoonful of honey fell out. I put it in the garden and let the bees help themselves. Could this be caused by wax-worms? But where did they come from, as nothing in any shape has entered my yard for a long number of years? MINNESOTA.

ANSWERS.—1. It is probably not necessary.

2. An apiary without a wax-worm is about as hard to find as a garden without a weed. Even if you have not seen one for years, it is still possible that they are there, only constantly kept down by the bees, and these sections, in which eggs had been laid, when left unprotected by bees were proper ground for the growth of the worms. If that isn't the proper answer to the conundrum, I don't know what it is.

Bisulphide of Carbon for Fumigating Honey.

1. I read that honey is fumigated with bisulphide of carbon. How do you use it?

2. Suppose I have 150 pounds of honey to fumigate, where am I to put it?

3. How much will it take for that amount?

4. Am I to put it in a saucer and set fire to it, or not?

5. I do not know a thing about it. Is it a poison?

6. Where can I buy it?

7. How long is it to be under fumigation?

8. If I fumigate it in the fall, where am I to put it? It does not freeze here all winter like it does in your State, so the frost will not keep the worms out of honey.

OREGON.

ANSWERS.—1. It is used in any way that will allow the fumes that evaporate from it to be confined long enough to kill.

2. Put it in a saucer over the pile of honey, having the honey enclosed so the fumes will remain with it.

3. Probably two tablespoonfuls will be enough.

4. No, unless you want the top of your head blown off. Just pour it in a saucer and cover up as quickly as possible; it will evaporate fast enough without lighting.

5. The danger is in its explosiveness, and the greatest care must be taken to have no fire or light near it.

6. Your druggist ought to be able to get it for you.

7. Half a day would probably answer, and several days would do no harm.

8. After the honey is thoroughly fumigated, boxing and pasting with paper, as you suggest, would be all right; but even if you do not have severe freezing I have some doubt whether bee-moths lay eggs in winter where you live, and, if not, the honey would be safe until they do lay again.

Trouble in Introducing a Queen—Wintering.

1. I received a premium queen in fine condition. After getting home that evening I removed the queen in my strongest colony, and in 48 hours after I placed the new one in the hive, as per directions. In two days I examined them to see if they had released her, but they had not; they did not seem to work on the candy. I looked again the next day, and still she was not released. I then went through the hive and cut out all queen-cells I could find, two in number. I then released her, and let her run down between the brood-combs, where they instantly balled her. I gave them a good smoking, but it did no good, so I took out one of the frames, and found a large ball on the bottom of the hive. Upon removing it I found the dead queen, and the bees very vindictive.

Can you tell me why they did not release her by eating out the candy? Did I introduce her too soon, *i. e.*, by placing the cage over the brood-nest?

I introduced the queen I removed to a queenless colony, and shut them up. So after they would not accept, and killed the new queen, I placed the queenless colony over them and they were all right. I want to say, while I was trying to get them to accept the new queen, they were fearfully cross—stung everything that came near them.

2. I have 9 colonies in two-story hives, and the upper story is empty, or nearly so. Should I remove the upper story? Will it be too cold for the bees, or should I remove the upper story and place the cover right over the brood-nest? Will they need protection of any kind in this damp climate? It rains almost constantly from the first of November to the first of March. WASHINGTON.

ANSWERS.—1. There is always some risk about introducing queens by any ordinary plans, and with any amount of care a queen may be killed. Yet care makes a difference. The time when a queen is released, if the bees do not release her themselves, and the temper they are in, are matters of consequence. If the bees are very busy storing, the chances are favorable. If nothing is doing, and robbers are trying to crowd into every crack, the bees are likely to be on the offensive, ready to attack viciously any intruder, worker or queen. At such times it is better to free the queen in the evening, when there is no danger of annoyance from robbers.

But it is generally better to let the bees free the queen. It is not easy to say just why your bees did not do so. If the queen is too far from the cluster, the bees will not free her so promptly. The best place is right in the brood-nest, but a shipping-cage does not lend itself easily to this, as does the Miller introducing-cage. It was not the best thing to let the queen out of the cage when the bees were cross. Partly opening the entrance to the cage, and putting it nearer the brood-nest, even separating the frames so as to put the cage between them, would have been a good thing.

2. Better remove the upper story, or else put a burlap cloth over the lower story before putting the upper story over.

Fumigating with Bisulphide of Carbon.

I had a pile of hives about 7 feet high, containing frames. On the top of the frames I placed a cloth, about half covering the frames, then saturated it with bisulphide of carbon. In looking through a glass at the bottom I saw a few bees and a couple of flies drop dead, so I supposed I had given enough to kill the worms. But the next day I found live worms scattered from top to bottom. So you see it was not a success with me. The few bees that were killed, and also the flies, got in while I was piling up the cases.

OREGON.

ANSWER.—You do not say whether you covered the top of the pile, so that the fumes could not escape. If not, the bees and flies which came closely in contact with the cloth might be killed, while the worms farther away would be little affected. In any case, a worm is protected greatly by its web, making it harder to kill than a fly or bee left unprotected. A stronger dose might have finished the worms.

Oily Sugar for Feeding Bees.

I have about 100 pounds of soft white sugar that I let just a little oil slop on it. Could I use the sugar to feed my bees next spring? One can hardly taste the oil in the sugar. PENNSYLVANIA.

ANSWER.—Unless the sugar is so strongly flavored with oil that the bees refuse to take it, it will probably be all right.

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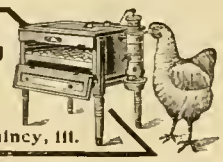

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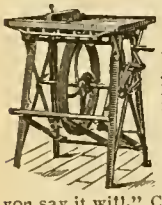

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What Yon Yonson Thinks

Vell, Peter Peterson he don't beau com over since dom bees bean bite him so bad. An ay vos purdneer to forgit dat he say he goan to git even. But das morning he com over before brekfus, an he seems awful hurry, and kine excited, an he say, "Ole Petersou got awful sick horse, an vont Yon Yonson to com over an bean hors dockter." "Iss he very sick?" Ay say, "Mine goodness, he bean siek plenty bad," he say. "He bean so sick he don't kin hardly live from von end to de odder," he say.

Vell, it don't bean very far so I go ma Peter, and he show me da hors, but he don't seems to be very siek, so ay ask Peter vat he tank bean da matter. "Vell," Peter say, "ay don't know, but every ting vat he ete it seems lak it go rite to his stummick."

An den Peter he mak plenty big laff. My ying, Peter bean plenty gud feller, but he git kine of funny som time. Ven he furst com over he don't got sens nuf to tell big lie po das vay, but he bean awful quvick to ketch on from dom Yankies.

Vell, bout two years ago Yon Yonson git kine of crasy streak on rural telephones. He talk to all das nabors to git dom to yoin vid him to put up telephone line, but, mine goodnes, dom don't vas interested. So ay git nodder von Svede feller to help, coz ven Yon Yonson tak notion, you better believe he stick to his yob; so odder feller com over horsbak, an ay git on old Yim, an ve go an se all das nabors. An vile Yon Yonson mak awful big talking, an explain to dem til dom purdneer to fall over, odder feller he git dom to sine paper vat say dom have to go an cut an set 16 poles apiece, an den ve goan to furnish all da vire an dom glas marbles, an put it on da poles, an furnish an put in plenty awful good telephoue for each von of dem. Den if dom all bean satisfied dom hav to pay us $25 each von of dom, an den dom boss an own hole ting, an dom kin mak big talking and hav plenty big time.

Den ve hire feller vat dun all da vork, an ven it bean all dun da line bean purdneer 12 miles long. an git 17 fones. Den ay go roun ven dome use dom bout two veeks, an ay say if dom don't bean satisfied ve tak dom fones out, an dom don't have to pay; but, my ying, dom say dom don't vill hav him fone tooked out for $100, so dom pay das money; an dom have big lection, an dom lect Yon Yonson to hig, fat office, cause he vork for nutting and he ete himself; but, my goodness, he hav to buy new cap and plow shoes to be in stile.

But purty soon all dom peoples in das country git crasy, an vont telephone, so now ve got dom all over das country, an ve got $100 svichbord in town, and ve pay $2.00 per year svich service each, and den ve talk all over das country for 50 or 60 miles, an even in big citys, an it don't cost von cent but $2.00 per year at our home svich, coz ve all give free exchange, and ve can now talk ma over 7000 phones free any time; dom country lines have 15 to 20 fones on von line, and sometimes ay tak das fiddle down an de girls play de organ, an maw an all of us sing and mak big music, an dom kin hear for plenty long distance. It bean nodder von feller on da line, som got von of dom sausage mills vat dom call phonograph, an ven evening com ve say, "Hello, Smit!" and den he turn das mill luse an youst grin out all da latest songs an finest music vot you never hurd. My goodnes, das telephone it bean da finest ting vat ay never seen. You better believe dom tramps and tieves don't dare to play hob in das country for ve ketch don on da telephone quvicker as nutting. An if dom smart proples vat live in big citties don't votch out, dom goan to be vay behine da times.

Vell, you know ay bean had som catnip hunny das year, an von day a voman come to visit, an maw she give her box nice hunny, an nex morning ven ve youst git up somebody ring one long an three short rings, dat mean Yon Yonson, so maw say hello, an dom voman up da line bout 5 miles she say, "You can't bet vat ve goan to have for brekfus. Ve goan to

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I still have several hundred copies of the souvenir with the above title. The bee-papers and a good many people without visible axes to grind have said it is a valuable and attractive thing. If you should like to have a copy, send me a silver dime or 5 two-cent stamps, and I will mail you a copy.

"BEES IN COLORADO" is the title of a 48-page and cover pamphlet gotten up to boom the Denver convention. Its author is D. W. Working, the alert secretary of the Colorado State Bee-Keepers' Association. It is beautifully illustrated, and printed on enameled paper. It is a credit to Mr. Working, and will be a great help in acquainting those outside of Colorado with the bee and honey characteristics and opportunites of that State.—American Bee Journal.

D. W. WORKING, Box 432, Denver, Colo.
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TANACETIFOLIA —1 oz. seed, 25 cts. in January, if ordered NOW. Any quantity. O. LUHDORFF,
48A2t VISALIA, CALIF.

have pancake an hunny." Den dom vimens all along das line som listen dom say, "My goodness, vere you git him hunny?" An she say, "Oh, my, Yon Yonson he yust got da loviest hunnys. It youst bean vite lak paper, an sweet—um-m-m-m!" An den dom vimens feel plenty bad sick coz dom don't got any hunny, so Yon Yonson tak paper an pencil an tak hole lot nm orders on da phone, til he don't got any more hunny to sell, and den dom talk bout das nice hunny on da fone, so ay got all reddy big market for 1903. An ven ay git more bees and all kines of honey-plants, an lots ma fruit, ay goan to do big bisness.

In da morning bout 7 o'clock Central girl she ring company ring—three long an five short—dat mean everybody; an ve all listen, an she say vat kine of vedder ve goan to have from da vedder burro, and de latest news, an vat corn is vort, an so on. An now dom store mans dom goan to run delivery vagons, and das mail-vagon he bring us all daily paper, an some times dun letter, an in da morning ve can ring up da store mans and tell vat ve vont, an if ve have any ole roosters to sell, or butter, potatis, eegs, or any ting, and den he com roun an ve do ours trading to home. But dom saloons don't kin peddle visky, so dom feel bout lak dom bean knoeked in de middle of next vensday, and ay tank dom soon hav to quvit bisness.

Now, dom country people don't hav to go to town every Saturday night to git deirs mail an groseries, and dom feel plenty gud Sund morning, an dom tak hole family an go to meeting, an purty soon dom churches have to be mak bigger, an dom mans goan to vare deir pants out on de knees quvicker as behine. An ven dom don't have to run to town so offeo dom goan to mak plenty monny, an every ting yust go hooping. Mebby, by an by, ve goan to git so hi ve hav to do lak Mr. New York, ven he go up pikes peak, he git so hi he hav to look trough hig teleseope to tell ver he bean at. My goodness, be say ven dom go up pikes peak dom see vater run up hill, but he don't say ver it run ven it git to da top of da hill.

Now, all you fellers vat read das Merican bee-paper, ay goan to leave you for a vile, coz ay bean so bissy, but if nutting happen ay goan to com over some time after Santa Claus bean vent roun. You bean all plenty nice fellers, an if you pay little more tention to honey-plants, an den all yoin yourselv into das big yunyuns vat dom call N. B.-K. A., an don't quvarl too much 'bout neuelus quveens, den Santa he fine yours stocken all rite, an mebby he give you awful niee tin vissle, an mebby he give Yonoy Hard-scrabble new corncob pipe; but ay tank he bean most too ole to suck das pipe.

Das future Paw, vil stay at home,
Avay from town at nite,
An den he know, ven morning come,
He don't vas bean got tite.

Da saloons dom don't vill soon can sell
Das stuff dom got to drank;
Dom towns don't goan to be das hell—
Das vat Yon Youson tank.

YON YONSON.

FROM MANY FIELDS

Cleaning Out Unfinished Sections.

I have just been reading Miss Emma Wilson's directions for getting unfinished sections cleaned out, and have this criticism to make of her methods: It allows the bees of colonies that have plenty of stores to get as much honey from these unfinished sections as those that are not so well supplied.

I will tell how I get the work done, and give Miss Wilson the liberty of finding all the fault with the plan she pleases.

When the supers are taken from the hives the last time, I sort the sections and put the unfinished ones into other supers, and when I have a few supers filled with them I hunt for the colonies that seem to be lightest in stores and place a super filled with sections over

Discounts for Early Orders.

On all cash orders received before Jan. 1, 1903, we will allow you a discount of 4 percent; before April 1st, 2 percent. Send us a list of the goods you want and we will quote prices by return mail.

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½ " " " " "	3 75	1-lb. Keystone, spring top, gross,	5.25
5-oz. " " " "	3.00	1-lb. Octagon, spring top, gross,	5.25
		¾-lb. " " " "	4.75

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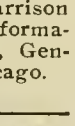

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An old and true friend that will help you in times of distress. When racked with pain you would give anything for relief. In the hour when the little child, too young to make its wants known, lies suffering, its little face drawn with agony; in the hour when the good wife, worn and tired, needs an arm to lean on; at all such times, when the calling of a doctor means a dangerous delay, besides great suffering and a heavy bill, there is nothing else so good as a bottle of

WATKINS'
Vegetable Anodyne Liniment.

We receive numberless letters like these:

SAVED THE CHILDREN.

CLARA CITY, Minn., June 14, 1901.
We had five children sick with **diphtheria** last winter and carried them all through in one week without any doctor. **Watkins' Vegetable Anodyne Liniment** should be used at once as soon as any symptoms appear. We mixed two teaspoonfuls of Watkins' Liniment with two of vinegar and one of salt. Gave some of the mixture once an hour, also rubbed the Liniment on outside of neck.
OTTO PETER.

HORSES WOULD HAVE DIED.

SHIPSHEWANA, Ind., June 18, 1901.
I have used **Watkins' Vegetable Anodyne Liniment** for nine years and find it the best remedy for **colic in horses** I ever knew. I saved two horses with it that would have died. Cannot speak highly enough of it.
HENRY CATTON.

The best thing made for Cholera Morbus, diarrhea, flux, rheumatism, cuts, cramps, strains, burns, colic, mumps, sore throat, diphtheria, frosted limbs, etc. For horses and cattle it cures sprains, cuts, scratches, bruises, sweeny, colic, etc. Of course when you read this advertisement you may not feel the need, but the need of it may arise at any moment of the day or night, and then its worth can not be counted in dollars and cents. Order it the next time our agent calls, or if we have no agent in your county, send us your name and address at once, and we will see that you are supplied.

FREE! FREE! FREE!

We send out a beautiful 100 page illustrated Home Doctor and Cook Book absolutely free, and want to place your name on our mailing list. It is the cleverest and most complete thing of its kind ever issued. Write for one to-day.

Wanted a Man. We want one good, open-eyed young man in each neighborhood who has a little ambition, and an inclination to get on in the world, to write to us. We are in a position to start him in a good paying business of his own. We have lots of young fellows, "boys" you might call them, who are making a nice thing selling Watkins' Remedies.

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These excursions can be joined at any point enroute.

For full information call on or address W. G. NEIMYER, G.A.,
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A neat little coupon on each envelope will bring you dollars. Other printing cheap. Address at once,

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47A6t 519 Masonic Temple, CHICAGO.
Please mention Bee Journal when writing.

each of these, first placing a piece of burlap over the frames of the hive so as to cover all but about an inch or an inch and a half at the end of the hive. The bees will remove the honey from the super to the brood-chamber in the day-time and go back to the brood-chamber for the night. Before putting on the burlap the bees, or many of them, would stay in the super all of the time. With the burlap on they remove the uncapped honey in a short time; then I remove all cleaned out sections, and with the uncapping knife uncap the rest. The honey in these soon goes below. Putting on supers and uncapping honey is generally done late in the afternoon, or early in the morning.

I will relate how I get the cappings from extracting combs cleaned up after they are tolerably well drained. Instead of washing them I put them in shallow boxes with expansive bottoms, or in large tin pans, and set where the bees can have free access to them. Soon there is a rolling and tumbling of bees in the boxes and pans, and the cappings look as if they had become living and moving masses. The bees go clear through them, except that now and then there will be found a sticky mass at the bottom which they cannot easily penetrate. These masses are loosened up late in the evening or early in the morning before the bees are astir, and by the end of the second day the picnic is over, and I have lots of cappings as dry as cornmeal.

Decatur Co., Iowa. EDWIN BEVINS.

Next Year—Honey-Boards—Unfinished Sections and Extracting-Combs.

White clover was still blooming a little on Oct. 25, and bees were carrying in pollen of a dark red color. Just where this pollen came from I do not know.

I have a portion of my apiary in chaff-hives, all packed with leaves on the top of the frames; the balance are in simplicity or dovetailed hives, and are to be left on the summer stands. The hives are well supplied with honey, with the exception of 3 or 4, which were late swarms.

Next year promises to be the best white-clover season that has been known in this locality, as there is a heavy growth of it everywhere, and if nothing happens to it—well, I am going to get ready for a big crop, anyhow, by having plenty of surplus arrangements for my hives.

I made an improvement in honey-boards the past season by putting an 8x10 glass in the center of the board, so that the inside of the super could be examined without disturbing the bees. The board is the same size as the hive, and need not be removed until the super is filled. Just try them and see.

All of my extracting-combs and unfinished sections were placed in the upper story of the hives of the latest swarms along in September, so the honey could be removed by the bees, thereby accomplishing two objects, that of supplying the bees with more stores for winter, and getting all the unsealed honey from the combs ready for the next year. The unsealed honey often sours or candies in the comb, making them almost unfit for use the following season. Usually the bees will carry the honey down, if you drop a little down among the bees and get them started.

J. M. YOUNG.

Cass Co., Nebr., Nov. 12.

The Carniolan-Italian Cross.

In response to a call for information concerning the Carniolan-Italian cross of bees, I will say that I have in one of my apiaries, side by side, 5 colonies in 10-frame hives, representatives of their respective strains, each having characteristics of its strain, and I could not say which I prefer.

First in the row is the Buckeye 3-banded long-tongue, every bee alike; their superiors do not exist. Next, imported Carniolan, just ended her third season; next the Muth strain golden Italian; then two Carniolan-Italians.

It was exceedingly interesting to study closely the nature of each during the last

To make cows pay, use Sharples Cream Separators. Book Business Dairying& Cat.212 free.W.Chester,Pa.

three seasons. Early last spring the first three mentioned started off with the Carniolan the strongest, the 3-banders second, and golden third. For a time neither of them seemed to increase, owing to the unfavorable spring. Then all at once the Carniolan began to increase rapidly—just seemed to boom; it was not long until I gave the other two each a frame of brood and bees from them to start them a-going, because it was getting late if I expected honey. One could see the improvement in the two very quickly.

The latter part of May I noticed queen-cells in the Carniolan colony, and, knowing their willingness to swarm, I quickly changed their minds by making two nuclei, when it was time for mating, placed entrance-guards in front of all hives except the 3-banders, and I now have two true-to-name of the Carniolan-Italian cross. Their bees resemble the 3-banders, though somewhat darker, and bands narrower, with characteristics of Carniolans, gentle to the extreme, boil over when you open the hive; and breeders, never had better. It was no time until these two nuclei were as strong as any in the lot. The only objection that prevents them becoming popular in the hands of novices and apiarists having many colonies, is their swarming propensity; however, I must say I give them close attention, and seem to catch them in the nick of time, as they never swarmed for me.

In the fall of 1901 I presented a friend of mine with one of the fine Carniolans, because he was "taken" with their gentleness; but last August he did away with them. "Because," he said, "that colony swarmed only seven times in less than three months;" so it seems I averted their swarming impulse, and my friend failed to understand.

The Carniolan-Italians will always have my closest attention. I find they winter better, and breed up better in the spring. I helped strengthen weaker colonies with frames of brood and bees from them.

My other strains have good qualifications which these bees do not possess.

I often thought if I could combine only the good qualifications of these different strains I would have a race that might be christened "Eureka" bees. FRED W. MUTH.

Hamilton Co., Ohio.

CONVENTION NOTICE.

California.—The California State Bee-Keepers' Association will hold its annual convention at the Chamber of Commerce, Los Angeles, Dec. 16, 17, 18, 1902, opening Dec. 16, at 1:30 p m. The convention is called in December to give opportunity to ask for additional legislation. A good program is expected, and a cordial invitation extended to all who are interested.

G. S. STUBBLEFIELD, Pres.
J. F. McINTYRE, Sec.

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow).....	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.20	2 30	5.50	10.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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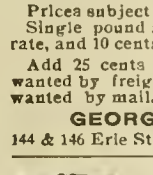

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$5 TO START YOU IN BUSINESS

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Reduced Rate for Christmas and New Year Holidays.

The Nickel Plate Road will sell tickets Dec. 24, 25 and 31, 1902, and Jan. 1, 1903, at rate of a fare and a third for the round-trip, to any point located in Central Passenger Association territory, good returning to and including Jan. 2, 1903. Pullman service on all trains. Individual Club Meals, ranging in price from 35c to $1.00, served in dining-cars. Address John Y. Calahan, General Agent, 113 Adams St., Chicago, for particulars. Chicago city ticket office, 111 Adams St.; Depot, Harrison St. and 5th Ave. 65-47A5t

WANTED WHITE CLOVER EXTRACTED HONEY!

Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.

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An automatic, direct acting regulator that surpasses any other improvement ever made in incubators. Send for new illustrated catalog and free trial offer.

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etc. We can save you money. Send list of goods wanted and let us quote you prices. ROOT'S GOODS ONLY. Send for Catalog.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov 19.—A slow, steady market may be said of conditions now prevailing in Chicago. The volume of sales are small, and the receipts are correspondingly so. 15@16c is obtained for best lots of white comb in a jobbing way, while for selections a little more is asked; amber grades, 10@15c, according to flavor, style, etc. Extracted, white, 7@8c; amber, 6@7c. Beeswax, 30c on arrival.

R. A. BURNETT & Co.

ALBANY, N. Y., Nov. 22.—Honey market is still in strong position with ready demand for all receipts at good prices. Fancy white comb, 16c; A No. 1, 15c; No. 2 and mixed, 14½@15c; buckwheat, 14@14½c. Extracted, buckwheat scarce at 6½@7½c; light grades more plenty at 6½@7c. Beeswax, 29@30c. H. R. WRIGHT.

BOSTON, Oct. 20.—Our honey market remains firm, with good demand and fair stocks on hand. Honey is not coming forward as fast as usual, and the tendency of prices is steady. We quote our market as follows: Fancy white 1-pound sections in cartons, 16c; No. 1, 15c; No. 2, very light supply, 14c; glass-front sections generally one cent less than this. Extracted, light amber, 8c; amber, 7½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Nov. 22.—We quote fancy white comb honey, per case 24 sections, $3.50; No. 1 white, per case 24 sections, $3.40; No. 2 white and amber, per case of 24 sections, $3.25. Extracted, white, per pound, 7½c; amber, 6½c. Beeswax, 27@30c.

Our market has changed quotations of comb honey from pound to the case.

C. C. CLEMONS & Co.

CINCINNATI, Nov. 8.—There is a good demand for all grades of extracted honey, prices ranging as follows: Amber and Southern in barrels, 5½@6½c; clover and basswood, 7@8c. Fancy comb sells 16@17c. Beeswax, 27c.

THE FRED W. MUTH CO.

NEW YORK, Nov. 8.—Demand for comb honey is good and same finds ready sale at from 15@16c for fancy white, 14c for No. 1 white, 12@13c for No. 2 white, and 12@13c for buckwheat. Extracted in fair demand at 7½c for white, 6½c for light amber, and 6c for dark. Southern in barrels from 60@65c per gallon. Beeswax quiet at from 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Nov. 18.—The demand for comb honey is good and prices are a little better, as the supply does not meet the wants. Extra water-white fancy is selling as high as 16 cents; other grades less, according to quality. Extracted is very active and prices are a little better; amber, 5¼@5½c; alfalfa, 6½@7½ cents; white clover, 7½@8c. Beeswax, 28c.

C. H. W. WEBER.

SAN FRANCISCO, Nov. 12.—White comb honey, 10½@11 cents; amber, 9@10c; dark, 5@—c. Extracted, white, 6@6½c; light amber, 4¾@5½c; amber, 3½@4c. Beeswax, good to choice, light, 26@27c; strictly fancy light, 29@—.

White is reported scarce; light amber honey in fair supply. The bulk of California produced honey is sold for Eastern shipment in carload lots from producing point at bottom price. Small lots of choice honey that can be used in local trade bring more. Quotations here given are current prices to producer, f.o.b. shipping point, on Eastern basis for extracted and California basis for comb.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

Wanted—Extracted HONEY

Mail sample, and state style of package and price delivered in Chicago.

John F. Campbell, 53 River St., Chicago, Ill.

34Atf Mention the American Bee Journal.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. **C. H. W. WEBER.**

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Tip-Top Glass Honey-Jars

The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.

If you try them once you will likely use no other kind of top or sealing arrangement for honey jars.

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That covers the whole Apicultural Field more completely than any other published, send $1.20 to

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,

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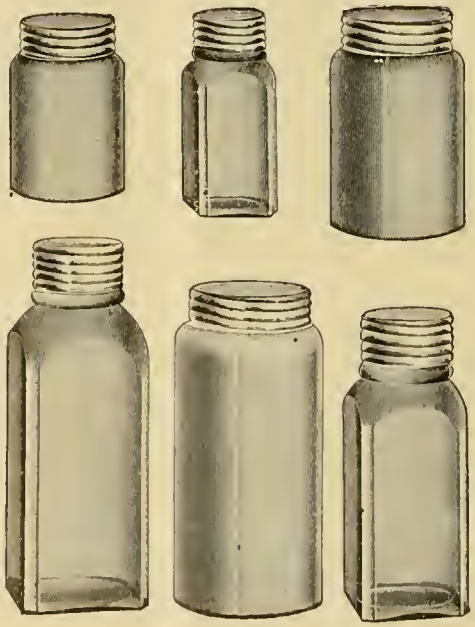
THE HERSHISER HONEY-JARS.



These jars were designed for use in the honey exhibit at the Pan-American Exposition, in Buffalo, and are very neat and attractive. They have cork-lined aluminum caps which seal them tight. If honey is sealed in these jars while hot there will be no annoyance from granulation.

For exhibition purposes and a fancy trade nothing on the market compares with these jars. Put up your honey in a neat, attractive package, and sell it at a good price.

The fact that the molds are constructed for making the jars by hand instead of by machine, and the addition of the aluminum caps, make the jars somewhat more expensive than the ordinary jars. They are made in four sizes square and three sizes round, as shown in the illustration. We can supply them either from Medina or from Philadelphia at the following prices:

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1 pound Square Hershiser Jars, - - - - -	Dozen, 80 cents;	$ 9.00 per gross
2 pound Square Hershiser Jars, - - - - -	Dozen, $1.00;	10.80 per gross
½ pound Round Hershiser Jars, - - - - -	Dozen, 60 cents;	$ 6 60 per gross
1 pound Round Hershiser Jars, - - - - -	Dozen, 75 cents;	8.40 per gross
2 pound Round Hershiser Jars, - - - - -	Dozen, $1.10;	12.00 per gross

These prices, although rather high in comparison with other jars, are as low as can be made on hand-made jars, and afford us a smaller margin of profit than other styles. Order a sample dozen of each size and be convinced.

THE A. I. ROOT CO., Medina, Ohio.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., DEC. 11, 1902.

FORTY-SECOND YEAR No. 50.

A Group of Colorado Apiaries.

Apiary of Coggshall & Weeks, of Delta County.

Apiary of Frank H. Drexel, of Delta County.

Apiary of W. B. Hopper, of Otero County.

Apiary of Sterling Bee Co., of Logan County.

Apiary of R. T. Stinnett, of Delta County.

Apiary of Messrs. Gill & Francis, of Boulder County.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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EDITOR—George W. York.
DEPT. EDITORS.— Dr. C. C. Miller, E. E. Hasty, Emma M. Wilson.
SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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The National Bee-Keepers' Association.

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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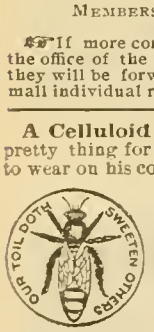
A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents, or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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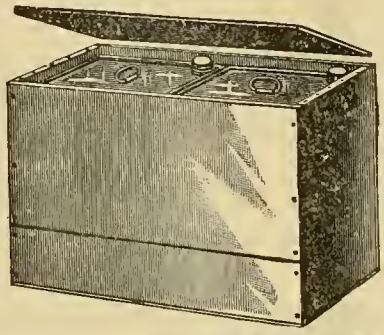
Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Write for Quantity Prices by Freight, if Interested.

A sample of either, by mail, 10 cents, to pay for package and postage.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 E. Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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☞Please allow about two weeks for your knife order to be filled.

Please Mention the Bee Journal when writing Advertisers *****

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., DEC. 11, 1902. No. 50.

Editorial Comments.

The Bacillus of Foul Brood.—That excellent apicultural journal, Le Rucher Belge, has published an article of exceeding interest, being a report of investigations made at the laboratory of the Institute of Pathology and Bacteriology of the University of Liege. in Belgium. The report is made by Dr. Ul. Lambotte, who, at the instance of the Society of Apiculture, made the most searching investigations, and announces that instead of the microbe of foul brood being a specific bacillus to be found nowhere in Nature except in cases of foul brood, it is one of the common microbes to be found everywhere, the bacillus alvei being identical with the well-known *bacillus mesentericus vulgaris.*

This announcement will be received with surprise—indeed, by many, with incredulity. But there seems little chance for any mistake in the matter. Microbes of the foul brood were obtained from many and widely different localities, and comparisons were carefully made with bacillus mesentericus, as also were searching tests, and all led to the one conclusion.

For the present it may suffice to withhold comment, further than to say that under the assumption that the two microbes are identical, every effort should be made to preserve our colonies in clean and healthy condition so that they may be able successfully to resist the attacks of the enemy everywhere lying in wait, and await investigations on this side the water, especially looking toward Prof. Harrison over in Canada, and Dr. Howard, in Texas.

Late Introduction of Queens has been recommended, but perhaps no one has given the matter just as G. M. Doolittle gives it in the Progressive Bee-Keeper. He says:

There is one thing I have learned of late which I have never seen in print, which is, that it is almost the easiest thing immaginable to introduce a queen in the late fall after all the brood has emerged from the combs. Simply take the old queen out, then wait a couple or three days, during which time the colony will find out that they are hopelessly queenless, and being in this condition, and not having even any sealed brood, they will take kindly to any queen even if she is dropped right in amongst the bees.

So, if you know that any colony has a poor queen in August, and you have not supplied them with another till October, it can be done during that month more easily than at any other time. Therefore, do not put off this matter till another spring, when it will be hard work to get a queen, and hard to introduce her.

What is a Tested Queen?—Not long ago, at a bee-convention, a committee was appointed to report an answer to this question. The appointment of such a committee will bring a smile to the faces of some who know that for years it has been understood that a tested queen is one whose worker progeny shows three yellow bands.

But a thing that "has been" may not be the best. At least not for all time. When Italians were first introduced into this country, their superiority over the common stock was considered so great that any admixture of Italian blood was an acknowledged gain, and the easiest way to tell whether a queen was of pure Italian stock was to see whether her worker progeny were uniformly provided with the three yellow bands. It was worth much to have such a test, and great good has come thereby. But in these days of golden Italians and 5-banders the possession of three yellow bands is not the clear proof that it once was of pure Italian stock. Moreover, now that pure Italian blood has become so common, the mere fact that one has Italian workers uniformly 3-banded is not sufficient. Uniformity as to bands is by no means indicative of uniformity of character. While possessing the desired number of bands, a colony may be the best storers in the world, and it may be one of the poorest.

So the set of bee-keepers who raised anew the question. "What is a tested queen?" are merely taking the lead in trying to decide a question that is likely to be a very live question. It is not the purpose here to discuss the question, but this much may be ventured, that the tested queen of the future will not, as the tested queen of the past, be one which has been laying only three weeks.

The Inversion System—turning the brood-frames upside down once in so often for the sake of having the bees destroy the queen-cells—was at one time looked to as a hopeful method of overcoming the swarming evil; but nothing has been heard of it for some time. Now, however, "Dilston" says in the Australasian Bee-Keeper that the system "is carried on successfully year after year by one, if not more, of our Australian bee-keepers." N. E. Loane also says in the same journal:

"Whatever sort of hive is used in the home apiary (I prefer the "Langstroth"), those in the out-apiaries should permit of inversion, and have a divisible brood-chamber, as, with such, swarming troubles can be greatly minimized."

The question is, whether "Dilston," in saying the system "is carried on successfully," merely means that "swarming troubles are greatly minimized."

Here comes something later on in the same journal by the editor, which gives a clear exposition of the system in full:

"Inverting the hive will not *prevent* swarming nor will it *check* swarming, but inverting the hive at the right time gives the bee-keeper *entire control of swarming*, if he visits his bees every eight days. Inverting has no effect on the hive unless queen-cells are present. Say you visit your bees, you find one colony preparing to swarm in three days, several others with queen-cells so far advanced as to swarm in four, five or six days, you don't want to be all those days in the apiary, simply invert those hives. Now consider what you have done. All colonies showing indication of swarming have their queen-cells turned the wrong way up. The bees destroy them and start fresh cells. You have

now so many colonies starting cells on the one day, which means they will all be ready to swarm on the one day. In eight days' time you may find others preparing to swarm; you now invert them, but those hives inverted on last visit are not again inverted, but artificially swarmed. You could invert a second time, or even a third time, but with what result? Frequently the bees in disgust either sulk or swarm, leaving advanced queen-cells. Inversion gives the bee-keeper *control* of swarming, it does not prevent or check it except for a few days, unless the honey-flow is at its close; it may then check it altogether."

The Weekly Budget.

MR. C. P. DADANT has resigned as a director of the National Bee-Keepers' Association, and Mr. C. A. Hatch, of Richland Co., Wis., has been appointed to fill the vacancy. A good selection, but all will regret the resignation of Mr. Dadant.

SOMNAMBULIST, the "delightful dreamer" of the Progressive Bee-Keeper, has this to say of one of our department editors:

"Miss Emma Wilson, Dr. C. C. Miller's right hand (wo) man, is still with us, and long may she be. Her articles in the American Bee Journal are inspiring to the faint-hearted, and are of great practical value to all."

The question now is, whether there is any sinister meaning in that partially obscured "wo" pronounced by Sommy. His established character for geniality, however, warrants the belief that his digestion is so good that he never has "bad dreams," so nothing but good must be read into what he says.

THE ELECTION OF DIRECTORS—three of them—takes place this month, for the National Association. The following inquiry has come in:

MR. EDITOR:—As I understand it, three directors are to be elected to fill the places of three of the directors of the National whose time expires, and I have seen some names put in nomination, but have not seen the names given of the directors whose time expires. Will you kindly give their names, as a good many of us may not keep track of such things closely enough to know the order in which they were elected. INQUIRER.

The three whose terms expire with this year are: Thomas G. Newman, of California; G. M. Doolittle and W. F. Marks, both of New York.

Those who have been nominated for directors are these: Wm. A. Selser, of Pennsylvania; Udo Toepperwein, of Texas; G. W. Vangundy, of Utah; and Wm. McEvoy, of Canada.

THE CHICAGO-NORTHWESTERN BEE-KEEPERS' ASSOCIATION met in convention last week as announced. The attendance and interest were splendid throughout the two days. Among those from other States who were there are these: Dr. Miller, E. T. Abbott, N. E. France, R. B. Leahy, W. Z. Hutchinson, Dr. Nussle, Huber H. Root, J. E. Armstrong, N. Young, W. J. Pickard and wife, Frank Wilcox; and Morley Pettit, of Canada.

The officers were re-elected as follows: President, George W. York; Vice-President, Mrs. N. L. Stow; and Secretary-Treasurer, Herman F. Moore.

We had a full shorthand report taken, which will appear in the American Bee Journal in due time. It will be worth many dollars to those who will be fortunate enough to read it.

Convention Proceedings.

THE DENVER CONVENTION.

Report of the Proceedings of the 33d Annual Convention of the National Bee-Keepers' Association, held in Denver, Col., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 776.)

Pres. Hutchinson—The next thing on the program is the paper by Mr. C. A. Hatch, of Wisconsin. Mr. Hatch is not here, so the secretary, Dr. Mason, will read it.

Dr. Mason then read the paper, which is as follows:

REPORTING THE HONEY CROP; WHEN AND HOW IT SHOULD BE DONE.

Statistics can be used for two purposes—one to give general information as to a business or calling, for the purpose of educating the public and thereby increasing or showing up the importance of the calling or business; the second use of statistics is for commercial purposes only, and need not be as elaborate and exhaustive as the former, and, therefore, is less expensive to obtain. The first would require a complete and extensive report from each bee-keeper as to the number of colonies kept, and the amount of honey and wax produced; while, for the second, the honey alone would be sufficient to furnish all data needed.

WHEN STATISTICS SHOULD BE COLLECTED.

While there are many localities that get the larger part of their surplus in dark or amber honey, we have noticed that while this later, or fall crop, of dark grades may be abundant, it cuts only a small figure in influencing the honey market, its price being graded from the price of white honey at the time; but if white grades are in excess of the demand, the dark is sure to feel the depressing effect. While this may not always be true, for practical purposes we think it is, and, therefore, assume it as a fact.

In looking over the field from Maine to California, we find that most, if not all, the white honey of this country is produced during June and July. Therefore, if we have a report for the two months we will have the white honey crop report.

WHO SHOULD MAKE THE REPORT.

Facts are what are wanted, and there is no one who can furnish these facts as well as the bee-men themselves; and where there is an organization it should be done through the local society to the National, the secretary of the National giving out a summary each month, or oftener, to all the bee-papers, showing tons of product this year and previous years at that date. This need not be a report from every bee-keeper, only an aggregate of the crop for a certain locality, say Colorado, for instance, 200 tons for June; last year's crop 175 tons; Wisconsin, 150 tons for June; last year, 200 tons. This kind of report, stating kind, extracted or comb, is all the buyer or seller need know; and we take it that their interests are mutual, about knowing the facts as to a crop.

STATISTICS MUST BE COMPARATIVE.

To know that the crop this year is so many tons amounts to but little when it is not also known how much the same territory produced last and previous years. The crop last year might have been 100 tons, and the demand 120 tons, consequently good prices. The crop this year might be 130 tons, and demand the same, and low prices are sure to follow unless a new use can be found to increase the demand. As a rule, lowering the price increases the demand, but not always. Some markets will take only so much, no matter what the price, and to lower prices for such a market is only to lessen profits.

THE EXPENSE OF REPORTS.

The ones benefited ought to, in justice, pay the expense; but that, perhaps, would be hard to adjust; so, according to present light, the larger or National association

should pay the bill. This society has most of the larger producers as members, and they could report for small producers and other large producers who are not members. Three postal cards sent to each reporter would cover the cost, except condensing and arranging. To avoid confusion, each correspondent should understand what territory he is reporting for, and not do as the editor of one of our bee-journals does, assign a man to a county, even if it is as large as an ordinary State. Mr. York please note this last item. C. A. HATCH.

Pres. Hutchinson—The man who was chosen to respond is a man who can probably tell us something from actual experience. I will call on Mr. Frank Rauchfuss.

RESPONSE OF MR. RAUCHFUSS.

Frank Rauchfuss—Our brother bee-keeper from Wisconsin says that statistics can be used for two purposes: First, for general information about the business; second, to give the necessary information for commercial purposes. For the sake of brevity I will confine my remarks to the latter, as this is of the most importance to those engaged in the business, and also the dealer in honey.

It is of great value to the bee-keepers to know at the earliest possible date what the honey crop of the country will be; what sections are likely to have an available surplus, and what sections are short, and, therefore, may furnish a market for the surplus of other localities.

As matters have stood so far, the bee-keeper has had a decided disadvantage, because there was no way for him of securing the desired information, except what he could find out from the fragmentary reports published in the bee-papers.

On the other hand, the merchant dealing in honey, by reason of his keeping in close touch with his shippers and others, is generally well-informed about crop conditions when the time comes around for marketing the crop, and he naturally makes the best possible use of it. It behooves the producer of any commodity to be as well informed as possible about the supply and demand of his products, and he should not be afraid to spend some money in securing this information, as it is wisely invested.

The first reports of the commencement of the season should state how the bees wintered, and their condition at the time of making such report, and whether there are more bees in the locality than the previous season. A little later the prospects for a crop should be reported. When the honey-flow commences reports should be made semi-monthly, giving conditions of flow, quantity of honey taken off, comb or extracted, white or amber, and if sales have been made, to give quantity sold and price obtained.

If it were a fact that all the honey-producing sections of the United States were supplied with well organized County and State bee keepers' associations, then I would strongly recommend that all county associations should report at certain intervals to their State associations, and the State association report as often to the National. These reports should then be published in the official organ of the National association promptly. But as long as there are many States in this Union that do not even have a State association, this course can not be pursued, and we have to look for some other way.

It is probable that the United States Department of Agriculture could be interested in the matter, and induced to undertake this work; crop reports gathered by the government are, as a rule, reliable, if they could be secured promptly. However, if there is no hope to secure it through these channels, it seems that the National Bee-Keepers' Association might be able to start the ball rolling, by gathering at first reports of the principal honey-producing sections of the United States, and if this attempt proves to be successful, branch out until every honey-producing State in the Union is included.

As Mr. Hatch says, this should be borne by the persons receiving such information; if the National association does the work, these reports will go to all the members, and the Association bear the expense. Whether this is feasible at the present membership fee, a trial only will show; but that good, reliable and prompt reports will be appreciated by all progressive bee-keepers is quite certain.

Now, if it is of any value, I will make a few remarks regarding our experiment of gathering crop reports last year.

We, last year, sent about 400 postal cards to bee-keepers that we knew were interested in this work. It seems the effort was not very much appreciated, as there were only about 46 to 48 replies. These people paid in 50 cents at the commencement of the making of the reports with this understanding: "This season the Honey Producers' Association has decided to take up the work with some modifications suggested by experience, such as, that questions will be sent out to be answered before May 20, June 15, July 1 and 15, Aug. 1 and 15, Sept. 1 and 15, and Oct. 1, respectively. A copy is enclosed, and you are requested to answer at once those asked for May 20; details from the reports received will be compiled and sent to all bee-keepers shortly after each of the dates mentioned." (Reads copy of letter sent out.)

Now, these reports were received all through the season, and as the season progressed, and the work of the bee-keeper was more pressing, we found they were getting less and less all the time, but we were fortunate in retaining sufficient people in each locality to make the reports of considerable value to every Western bee-keeper, and there is no doubt they have been largely instrumental in obtaining better prices for honey not only in Colorado, but also all the honey-producing sections of the West. I spoke to a gentleman from northern Colorado last night, and he says he is quite sure that these reports which he had obtained at a cost of 50 cents, had benefited him to the extent of at least $30.

F. E. Brown—We can see by these papers and discussions how it is possible to get reports from our members, where we are organized in the local societies, but the thing that interests me is, How can I get the reports from you of other societies? In California the buyers who control the honey of central California for sale, will come to me and say that Arizona has stacks and car-loads of honey, and they are offering it on the market at such and such prices; they will tell us that in southern California they have tons and tons, and, as it was reported last year, they had anything from 500 to 1000 car-loads to be put on that market. These reports were used to influence the market. The thing you want, and I want, is to know exactly what is reported all over, and the question is, How shall we accomplish that object? How can these reports that come in be communicated to me, and how can my report be communicated to you, that we may all know?

J. C. Carnahan—I don't know who originated the idea that Mr. Rauchfuss spoke to us about a minute ago, but I do know this, that if we had followed the instructions of Mr. Rauchfuss, it would certainly have been worth $100 to me this year in the marketing of my honey crop. I think if it was followed right through the whole country, it would be a good idea—each one in the State reporting to the headquarters of the State, and then the headquarters of the State reporting to the National, so that each bee-keeper in the National might know the condition of the honey supply in all parts; he would know when to sell, and what price to ask for his honey; and I think it is a grand idea, and everybody, not only in Colorado, but in the whole country, would profit by the idea that was gotten up in that pamphlet by Mr. Rauchfuss; it is a good one.

Herman Rauchfuss—I believe this convention helps a great deal towards accomplishing just what we have been talking about; we just have to get acquainted with each other. Mr. Brown said he had written to Colorado trying to get some information, and he couldn't get it. We never were able to make any connection with the California bee-keepers. We come together here, and we come to these meetings, and the better we get acquainted the sooner we will accomplish our objects. After we have accomplished them we will certainly get a better price for our honey than we have been getting up to this time. We have had this in Colorado, and the same works all over the country. In fact, I believe the time will come when we will not have local organizations—we will have a National organization all over the country, and this one here, and in California, and in other States, will be nothing but branches.

W. L. Porter—It seems to me that this is a field that the National association might do a great deal of good in. We know by the experience of last year how the reports in the different newspapers of the country exaggerated the amount of honey that was to be sold; those in the East, and parties who wished to buy honey, did it for a purpose—to lower the price of honey when it was offered for sale, and then, afterwards, they expected the price of honey would rise, and they would profit by it. Now, if we had data from the National association so that we could go to the press and say the National association says so and so, we would have something that would have weight; and if the National association would do something in that line there is no doubt but what we would all benefit by it.

Mr. York—In the last paragraph of Mr. Hatch's paper,

he refers to me, and wishes me to "make a note of it;" he seems to intimate that I assign a reporter to each county of the United States. I do nothing of the kind; I do not try to get reports, either, for all the counties. I don't know what he refers to when he says I assign a man to a county.

(Continued next week.)

Report of the Northern Illinois Convention.

The Northern Illinois Bee-Keepers' Association held its convention in Freeport on Oct. 21 and 22, 1902. The meeting was opened with a fair attendance, considering the short crop of honey. Pres. N. A. Kluck delivered an address, referring to the peculiar season for bees, outlining the work for the season, and urging harmony and regard for the opinions of each other.

There were reported 781 colonies, spring count, and 909 colonies in the fall. Pounds of comb honey produced in 1902, 8560; extracted, 4639—or an average of a little less than 17 pounds per colony.

It was generally admitted that the past season had been one of the strangest known for many years. Nearly every one reported having to feed the bees all through the month of June, and very few took any surplus honey before the middle of August. The excessive rains all summer caused white clover to bloom in August and September, giving some honey late, which is very unusual. All reported bees in good condition for winter.

Mr. Arthur Stanley, a queen-breeder, showed some fine queens, also his method of making queen-cups, putting royal jelly in them, and transferring larvæ to cups. He also showed his queen-cell protectors. He has applied for a patent on them.

Among the questions discussed were:

"Which is the best size for a hive?" The most prefer the 10-frame.

"Would there be any advantage in having two queens in one hive?" The most of the members thought not, but Mr. Lee thought it would be an advantage.

"How do you prepare your bees for wintering in the cellar?" Mr. Hiit takes off the honey-boards and puts three thicknesses of burlap over the bees; a number of others use burlap and like it better than the honey-board. J. W. Johnson takes off the bottom-boards and puts on a wire-screen with strips to make a larger space between the screen and the lower part of the brood-frames.

"Is the fence separator and tall section a success?" Many of those who had used them like them, as they thought a nicer article of honey could be produced with them.

The election of officers resulted as follows: President, N. A. Kluck; Vice-President, O. Taylor; Secretary and Treasurer, B. Kennedy.

The next annual meeting will be held in Rockford, Ill., in October, 1903. B. KENNEDY, *Sec.*

Winnebago Co., Ill.

Contributed Articles.

Something About Carniolan and Italian Bees.

BY G. M. DOOLITTLE.

"I am a beginner in bee-keeping, and have been taking the American Bee Journal for a short time. I have been very much interested in your answers to questions during this year, as you make things so plain. I have only the black bees, but I see by reading that there are bees called Carniolan, and others called Italians. Will you please be so kind as to tell us, through the American Bee Journal, something about these bees, so that I may know something of them.

"CORRESPONDENT."

ANSWER.—In reply will say that, with the editor's permission, I will do the best I can in this matter.

If I am right, Carniolan bees are natives of Carniola, and were imported mainly into this country through Mr. Frank Benton, when he was in Germany. There seems to be a difference of opinion regarding these bees, some extolling them very highly as comb-builders and honey-gatherers, while others have no words of favor for them. Some years ago I obtained a Carniolan queen, and, from careful experiments, comparisons, and close observations, it seemed to me that they were very nearly allied to the black bees I had years ago, when I first entered the ranks of bee-keepers. As there were several traits about them which I did not like, I got rid of them. The two main dislikes were that they would not go at brood-rearing to make a business of it till the honey harvest came on, when they would boom their brood at a tremendous "pace," and begin to swarm, and keep at it all through the honey harvest, which resulted in the consuming of nearly or quite all of the honey gathered through the harvest in rearing bees, which, later on, would consume all there was left in the hive before winter came, so that they gave little or no surplus, and were universally short of stores for winter, I having to supply them their winter stores from other colonies.

Later on I was led to think that those first tried might not have been the genuine article, so I procured some queens from two others who advertised the "Simon pure." But these last proved to be little, if any, different from the first. I kept these two years, but as I always had to feed them for winter, with no results in surplus honey as compared with the other colonies in the apiary, I again pinched the heads of all of these queens and installed others in their places. There may be localities in the country where the seasons and honey-flow are different, where they would do well, but I cannot help thinking that where there is only one regular honey-flow, and that lasting only three or four weeks, as a rule, these Carniolan bees are about the poorest of any for such a locality.

The Italian bee belongs to one of the yellow varieties, to which also belong the Cyprian and Syrian. The Italians are very quiet and gentle, while the other two varieties named are comparatively cross and vindictive, especially the Cyprians. Italians were imported from Italy into this country as early as 1860, so that they have had a longer experience in the United States than any other bee except the blacks.

Nearly all agree in placing the Italian bee at the head of all others, both as to ease of manipulation and honey-gathering qualities. As comb-builders they are not quite as good as the German bees, or what are commonly called black bees, which our correspondent says he has. Neither do they use so much wax in capping their surplus honey, which gives the surplus product a little inferior appearance, or what is commonly termed a "watery look." They cling very tenaciously to their combs, while the black bees often stampede and fall off their combs when the same are being manipulated. This tendency in the Italian bee makes the handling of the combs very pleasant, unless we wish to get the bees off for extracting honey, or for other purposes, when it is much more work to rid the combs of bees.

However, the main point of superiority of the Italian bee is its honey-gathering qualities, and its booming the brood in just the right time so as to have the maximum amount of bees on the stage of action just when the honey harvest is at its best. If there is any honey to be had they are away to the fields after it, and will toil incessantly all day for a very little, while the black bees often seem to think this little is not of enough account worth looking after.

In times of a good honey-yield there is not much difference between the working qualities of the two races of bees—the Italian and the German—except that the Italians are more likely to have a larger force ready for the honey-flow than the others; and, then, in connection with this, they will reduce their brood during the honey-flow so that we do not have so many useless consumers after the flow is over, to eat up what should be the winter stores. Then, in addition to this, they toil, as I said, for the littles, so that often, after the main harvest is past, they will hold "their own," even if they do not add to it, while the blacks are showing a decrease in their stores right along.

This is as I find it in this locality; but I realize that in a locality where there is a continuous flow of nectar for three or four months, a bee that is likely to breed steadily right straight along—one which did not slack up during the honey-flow—might prove to better advantage during the latter part of the season.

Therefore it is well for each to look for the bees best suited to his own special location, and after once having found such bees, I should hold to them the same as I do to the Italians for Central New York.

Onondaga Co., N. Y.

The Premiums offered this week are well worth working for. Look at them.

Report for the Season of 1902.

BY WM. STOLLEY.

THE season of 1902 proved to be abnormal in every respect, in this section of the country, as far as bee-keeping is concerned. It was a cold and exceedingly wet summer, with but very short intervals of seasonable weather, propitious for the gathering of nectar by the bees.

My bees had wintered well (in an open shed) as usual, and after selling and uniting some colonies for the sake of reducing the number wintered, I commenced the season with 28 run for extracted honey, and 3 colonies in Heddon hives for comb honey. While in former years the month of June always was the month when judicious feeding was indispensable to prevent a serious set-back in brood-rearing, this year the month of June gave me quite a little surplus in the supers from dandelions, for the first time.

This honey-producer (dandelion) made its appearance here some ten years ago, and, gaining ground continually, now is quite a factor in the keeping of bees, and the product of the apiary. This season I had colonies which gave me 20 pounds of surplus dandelion honey in June.

Another abnormal feature that presented itself the past season, was the excessive swarming, such as I never experienced in all the 23 years that I have been keeping bees, notwithstanding the very cold and wet weather we had. From the 28 colonies run for extracted honey, in large hives, I had 14 to swarm, while in previous years, five swarms from the same number was the most I got. All those farmers hereabout, who keep bees, were even much more subjected to this excessive swarming than I was.

I have a number of suitable boxes for squirrels, fixed 40 to 50 feet high up in the trees in my park, and the inmates of three of them were driven out by stray swarms from other parts of the neighborhood, and one large stray swarm went into one of my roof-hives on June 15, from which I took, on Aug. 4, 42 sections of nicely finished comb honey.

From the 28 colonies (spring count) run for extracted honey, I got on an average 108 pounds per colony, or 3013 pounds of nice, white honey, and 48 pounds of light-colored was from cappings.

The season this year practically ended about August 15, while in former years up to 1898, the 15th of August was about the time when the fall honey-flow of native bloom began; and I have had as much as 2000 pounds of dark and rank honey, obtained after that date. This state of things is changed altogether now.

But since the year 1897, I have had no dark honey, owing I think, to the increase of alfalfa and sweet clover, which blooms, it seems, are more attractive for the bees to gather from, than the wild bloom.

I increased from 28 colonies to 40 in my hives run for extracted honey, and from 3 in Heddon hives to 5; so that I now have 45 colonies, all in good condition, and packed for winter. But I propose to reduce this number next spring again, to from 25 to 30 colonies, this number being all I care to keep.

I learn that in some sections (in Michigan, for instance) locations which used to be first-class as to honey production, have become gradually poor locations, while here in Nebraska, along streams, the product of the apiary has, by proper management, been greatly enhanced, and the prospects for the future are promising still better results. The bees have found a permanent home in what was termed "*the American desert*" but 20 or 30 years ago.

The "white man's fly," the Indians used to call the bees, when I (now 41 years ago, in the winter of 1860 to 1862) took 3 colonies of black bees, on a common farm wagon from Omaha to Grand Island—a distance of 153 miles, and it took a 5 days' journey to land the bees in Grand Island, over a road anything else but smooth. But those 3 colonies of bees carried all right, and for 3 years I kept those bees. They never swarmed; I never got a pound of surplus—they simply lived. They were in a box, with immovable frames, of the size of the American frame—about 12 inches square—and had 8 frames. Subsequently I broke into one of them to investigate, and an old practical bee-keeper, of Germany, who was anxious to buy them, bought them and kept them for years, without getting anything out of them.

Those bees kept their own, but never sent out a swarm, as far as known. But in the summer of 1880, I once more tried my hand at bee-keeping as "a side-show," and I have been quite successful ever since. My location has improved from year to year, since I got sweet clover and alfalfa started in every direction, and of late the dandelion and white and red clover promise to supplement and still more improve my location for the keeping of bees. Now my bees are my much-loved pets, and will remain so, I suppose, to the end of my life. Hall Co., Nebr, Oct. 22.

Methods of Making Artificial Swarms.

BY WM. M. WHITNEY.

I READ with much interest the account of the various methods of producing artificial swarms of bees, as given in late numbers of Gleanings in Bee-Culture, but I am surprised that the idea of *forced*, *brushed*, or *shaken* swarms should be considered a new thing.

Of course, my personal knowledge of the subject dates back but seven years, the beginning of my bee-keeping. From what I find in the works on bee-keeping, with which I am familiar, I had thought that the practice of the several methods, not excepting the *brushed* or *shaken*, to have been well understood for many years. Perhaps my reading has not been extensive enough, or that I have taken too much for granted to form correct conclusions. I have experimented with all the methods described, but have ordinarily adopted substantially the one recommended by Dadant's Langstroth.

To illustrate: Suppose one wanted only a moderate number of colonies. Take two colonies that are preparing to swarm; for convenience designate them No. 1 and No. 10. Bring the hive with the frame of foundation or comb that is to contain the new colony, say, to No. 1; shake or brush the bees from the combs of No. 1 in front of new hive on No. 1's stand, being careful not to injure the queen, which I usually find and put her into the hive; also being careful to brush the bees from any frame having queen-cells which it might be desirable to save instead of shaking, as by so doing there would be danger of destroying the embryo queen. Then remove hive No. 1 and place upon stand No. 10, removing No. 10 to a new place; find the frame in No. 10 containing the queen, and hang in a frame-box, or set to one side in some safe place until the work in this hive has been completed. Take the frames of bees from the hive and shake in front of the new hive on No. 1's stand, until at least one-half the bees have been removed. Cut out all queen-cells and replace the frame with the queen, and the work is done. Enough bees will return to the old stand occupied by No. 1 to keep the brood warm, and enough will return from the new colony to supply the deficiency.

If No. 1 is to be re-queened, cut out all queen-cells, or in two or three days a swarm might issue. In time of rapid honey-flow surplus-cases might be put on all of the hives immediately. In fact, with prolific queens this would be necessary in case of No. 1 and No. 10, to prevent swarming.

Another method of making artificial swarms, and which has been quite successful with me, is as follows, viz.:

Early in the season, say during fruit-bloom, select a strong colony for division, and place an empty hive on a stand beside it. Remove at least one-half the bees, frames and all, with the queen, to a new hive. (I include the queen because the bees are more likely to remain if she is with them.) Separate the frames of brood in each hive, and fill in with frames of comb or foundation. Close the hives, and the work is done, re-queening in a few hours the queenless colony.

If one seems weaker than the other, change places with the hives, and everything works well, and no quarreling. I have obtained very good results in surplus honey from both colonies thus treated. Of course, if queen-cells were found, and it were desirable to rear a queen in the queenless colony, all cells excepting one or two of the best ones might be removed; but so early in the season there would seem very little danger of swarming if left alone.

It seems to me, however, not advisable to make division on the eve of a honey-flow, especially to leave a queenless colony to rear a queen from the egg unless it were to be reinforced frequently with brood from other colonies. But unless the very best judgment were used in this method of strengthening weak colonies, the production of surplus honey would be very seriously affected. Divided colonies, or forced swarms, sometimes operate like a two-edged sword. In the hands of an inexperienced person it cuts both ways, resulting in loss of surplus and destruction of what otherwise would have been a very good colony. The safe practice for such person is to wait until the swarming instinct develops. Walworth Co., Wis.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Value of Stored-Up Bee-Information.

Don't forget that while the bees can't store any now, that you *can*.

You can store your mind. If you have read your bee-book from cover to cover, don't think that is all that is necessary. Don't be satisfied with reading; study it. After you have studied it a dozen times you will still find that there are a whole lot of things that you don't know about bees.

Possibly you may not be satisfied with one text-book, and you surely need a bee-paper. You may save a good deal more than the price of a book or a bee-paper in one season if you get the contents into your head; but remember you won't have time to run and consult a bee-book when the critical time comes to apply your knowledge, and you must have it in your head ready for use.

How many blunders it would have saved bee-keepers 40 years ago if they could have had the books we have now; but the books weren't made then.

Some think there's no need to get bee-books unless they have 50 or 100 colonies. That's a mistake; yes, a big mistake. You need the bee-books, even if you have only one colony.

Using Honey in Cooking and Candies.

How many of the bee-keeping sisters are using honey in their cooking? It is more wholesome than sugar, and cookies, etc., made with honey keep fresh much longer. In fact, I think they are improved with age.

Candy made of honey is much better for children than that made of sugar, and children will have more or less candy. Why not make your own candy? Then you know what they are getting. Honey caramels are delicious, and easily made. They are nice for children with colds and coughs, and they never have to be coaxed to take such medicine.

Can't we do more to increase the use of honey by using it ourselves, and inducing our neighbors and friends to use it, too? Just send them a sample of our product once in a while, when we have extra-good luck. I often think the saloon-keepers are much wiser than we are. They know how to create a taste for their goods, and succeed in selling them, too, in spite of all the misery and woe that follow in their wake.

Uniting Weak Colonies in the Fall.

The season of 1902 being so poor, on account of a late spring and wet and cold weather, half of my bees did nothing at all. I took off eight supers that had nothing in them. I got only $12.60 worth of honey. I sold it for 15 and 20 cents a section. When I took off the supers, the last of September and the first of October, they all seemed to have enough stores to last them. The weather the latter part of October and the most of November has been very nice, and the bees have flown quite freely almost every day. The latter part of November was too cold and windy. When I examined the bees lately I found I would have to do a good deal of feeding, so when it was a nice day and they were flying pretty freely I went to work doubling them up. I have united eight colonies; that is, I have put so many in with so many more. I had three colonies that seemed to have plenty of winter stores.

I have been very successful in doubling up, no fighting at all. I paid no attention to the queens—thought they could do that themselves. I had the hives in pairs, and I overhauled them to see that there were no worms, then I took out the frames in the one that had no honey, or not much, then took the full ones out of the other one, bees and all, and put it in the other hive, and so on until I got the one full; when I had taken all out, then I brushed the bees off the corners and set them to one side; the hive-body would be thick with bees. I would then set it on top of the other one, then brush the bees down and give them a few puffs of smoke to drive them down among the other bees. Then I took the bottom-board and brushed them in the same way, and left the body on top, and put in all the frames that had any honey in them that was capped. I uncapped it, then put on the cover and stopped the entrance of the top body, so that no other bees could get in, then gave them a few puffs of smoke at the entrance to drive then up to the upper part. So you see by the time I was through with them they were pretty well mixed up; either that, or the honey took all the fight out of them—at least, they showed no signs of fighting.

I was taken sick after swarming was over, so the bees were neglected, the worms got in three, but did not destroy any. I put the bees in with others. I think I must tell you how I did with the worst one; perhaps it may be of benefit to some other sister under like circumstances:

I took the hive—bees and all—off the bottom-board and set it up on end a little way from the bottom-board, with the bottom facing where it set. Then I took another body and set it in the place where that one had been, and put in two frames of comb (three would have been better); the two hardly held the bees. When I had the cover on I commenced to puff the smoke in the one that had the worms in, and kept it up until I drove them all out of that one, so they went into the one I had put in its place. The combs were empty, but I poured a little syrup in one side, so they all went in very nicely.

In the morning I stopped the entrance and carried the hive to another one, as it had none by it, and brushed the bees in front of the other and drove them in with smoke, and there was no trouble with them. All three that had the worms in them I put in with others.

If this will help some other sister it will be worth all the trouble of writing it.

I have received so much benefit from the Bee Journal that what success I have had has come from information gathered from reading it. SARAH J. GRIFFITH.

Cumberland Co., N. J., Nov. 22.

A Kind Notice of "Our Sisters."

The Rocky Mountain Bee Journal kindly noticed our department as follows:

"A commendable bit of enterprise on the part of the American Bee Journal, is the addition of a ladies' department. This ought to increase the popularity of the 'Old Reliable' with the fair sex."

Honey as a Health-Food.

The Chicago Daily News gives in its "Health and Beauty" department this item about the use of honey:

"If people would use more honey and less butter on their bread it would be better for their health, especially for children and invalids—at least such as suffer from defective or weak digestive power. Honey is a partly-digested form of sugar, and thus relieves the stomach from the task of changing cane-sugar to grape-sugar, which must be done with other forms of sugar before they can be absorbed into the system. Many resort to honey when they want a remedy for coughs and sore throats, but why not use as a preventive?"

There is nothing particularly new in this, but the Daily News has a large circulation, and that "Health and Beauty" department is read by nearly every woman wherever it goes; and the Daily News is doing a big thing in printing that item. It is going to help a good bit to increase the use of honey.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Prevention of Swarming.

I see a good deal about brushed swarms, and piling up the brood several stories high. I have not tried that plan, but have practiced putting nearly all the brood over an excluder at intervals of about 3 weeks, which, on the whole, was very successful in preventing swarming; but the difficulty was that I was obliged (or thought so) to look over all the frames so put up, 8 or 10 days after, in order to cut out any queen-cells that were started, which of course, took up much time.

1. Is it necessary to do that?

2. If they were not cut out what would be the consequence?

3. If a virgin queen managed to squeeze through, I have had laying queens, in two cases, pass backward and forward through separators. Would it not result in swarming or the death of the old queen? BRITISH COLUMBIA.

ANWERS.—1. I don't know. I hardly think so.

2. I don't know that, either. I think there would be queen-cells started in some cases, and these might be destroyed before maturing, and in some cases be allowed to mature. Just what would happen if a virgin queen should be in the upper story with a laying queen below I don't know, and I wish some one who has had experience would tell us. In some cases she would likely be killed, possibly in all.

3. In the first place, I do not believe (although there is a bare possibility I may be mistaken) that a virgin can get through a queen-excluder that she cannot get through after she gets to laying. The thorax of a virgin, I think, is just as large before laying as after, and it is the thorax that hinders going through. Let a perforation be large enough to allow the passage of the thorax, and I am pretty sure any queen will have no trouble in getting her abdomen through, no matter how heavy with eggs. I admit that a virgin will make more desperate efforts to go through than a laying queen, and that a virgin will squeeze through if she possibly can, while a laying queen in most cases will not try so hard. But let the perforation be small enough so that a laying queen *cannot* squeeze through, and she cannot squeeze through the same aperture when a virgin. Suppose, however, the perforations are large enough for a virgin to squeeze through. She would in most cases be killed—I've had that happen always in the early part of the harvest. Toward the last of the harvest, if the queen should be old, the young might supersede her. It is possible swarming might occur, but my guess would be no swarming. But I don't know, and will be glad to learn from those who have had experience.

Unfinished Sections—Placing Bees Near a Sidewalk.

1. I had quite a number of unfinished sections at the end of the season. Part of them I put on the hives, and the rest I fed back at the entrance, but the weather was too cold and the honey was not carried into the sections but was stored below. Nearly all that was not capped in the sections was carried below. Can I keep these partly-filled sections to use next season? If so, how should they be kept?

2. I live in a small village on the north side of a street running east and west. In front of my lot, six feet outside of the fence, is a row of hard-maple trees, the sidewalk being between the trees and the fence. If I should put my bees in the shade of these trees, say one rod inside of the fence, with the entrances of the hive turned to the north, do you think they would bother people going along the sidewalk? IOWA.

ANSWERS.—1. There are some who say a section left with some honey in it may be used the following season, but I think the majority would agree with me that no section should be used next year that has even the smallest particle of honey left in it from this year. It must be cleaned out *clean*, and that by the bees. I would rather melt up a section than to use it next year if the bees have not cleaned it out this year. It is just possible that next year the bees may clean them out sufficiently if they are put where the bees can rob them—say in a pile with an entrance large enough for one bee at a time, water being sprinkled into the cells to dissolve the grains, or the sections being previously kept in a damp cellar, so that the bees would leave no granules.

2. Probably not, especially if the trees come down pretty low and are pretty close, while it is all open on the north side. It might be a good deal better, however, to have a tolerably close fence five or six feet high to prevent the flight of bees in wrong direction.

Preventing Honey-Granulation.

My honey is of very fine quality, but candies so quickly and hard I cannot obtain sale for it. Will heating prevent candying? If so, what amount of heat can I employ without injuring the quality of the honey? It is pure apple-blossom honey, and of exquisite flavor. CALIFORNIA.

ANSWER.—It is difficult to answer. Some honey candies more quickly than others, no matter what is done. Heating will not prevent candying again, unless it be sealed up as in canning fruit. It is possible that allowing it to be very thoroughly ripened before extracting would make a difference. Keeping it in a hot place, say in the neighborhood of 100 degrees for a good many days after extracting, might also help. If you heat it don't heat beyond 160 degrees; better still if not heated beyond 130.

The Buffalo Convention Report is issued in pamphlet form, size 6x8½ inches, 80 pages and cover. Besides a full report of the proceedings of the 32d convention of the National Bee-Keepers' Association, held in Buffalo, N. Y., Sept. 10, 11 and 12, 1901, it contains fine half-tone portraits of all the officers and directors of the Association; also the Constitution, a list of the membership up to the end of 1901, and the two latest bee-songs—"The Hum of the Bees in the Apple-Tree Bloom" and "Buckwheat Cakes and Honey." We believe it is the finest ever gotten out for the Association. Of course, all members of the Association receive a copy free, but there are thousands of our readers who are not yet members, but who should have this valuable Report. Better send for a copy, if you have not yet received one. Price, postpaid, 25 cents, or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal. Better order soon, before all are gone.

Honey as a Health-Food is the name of a 16-page leaflet (3½x6 inches) which is designed to help increase the demand and sale of honey. The first part is devoted to a consideration of "Honey as Food," written by Dr. C. C. Miller. The last part contains "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by every one who has honey for sale. It is almost certain to make good customers for honey. We know, for we are using it ourselves.

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FROM MANY FIELDS

Moving Bees.

On page 745, Alabama asks: "In shipping bees in very cold weather, would it do just to cover with wire-cloth? Would it not be too cold?

I shipped 29 colonies last April from Iowa to Minnesota, over 200 miles, and perhaps my experience will help him.

I covered the top of the hive with wire-cloth, fastened up the entrance and fastened the hive to the bottom-board with strips of lath. I put the hives in the end of the car, tiering them up with pieces of scantling between them, filling the rest of the car with buggy, cutter, household goods, etc.

The weather was cool, as there was snow still on the ground, though at that time of year it would not be "very cold." The bees were in the car four days. When I took them out they were so warm they were just tumbling over each other in their anxiety to get out, and were all right.

I think that as far south as Alabama and Texas there will be no danger of the bees being too cold with all the ventilation possible to give them.

My bees stored scarcely any surplus honey the past season. It was so cold and wet the middle of June, that they had but little honey in their hives. They swarmed some, and most of them have honey enough to keep them through the winter. During the white clover bloom they did quite well, but basswood bloom did not yield much honey.

J. RIDLEY.

Wright Co., Minn., Nov. 21.

Common Everlasting.

I send under separate cover a plant which please name in the American Bee Journal.

E. A. DONEY.

Scott Co., Iowa, Nov. 16.

[The plant is called the Common Everlasting, because of its persisteney in blooming throughout the fall until cold weather freezes it out. It belongs to the Composite family, and no doubt is a fairly good honey-producer. —C. L. WALTON.]

Smoker-Fuel—Wintering Bees.

If you would have first-class, high-toned, way-up, crackerjack smoker-fuel, take cedar-bark, tie it in bundles the proper size for your smoker, and cut it off the right length. Try it once. Some of our Colorado people make use of cylinders made from old tin cans, that will just slip into the smoker, and when one has burned out replace it with a fresh cartridge. Very convenient. Have a lot of such prepared at leisure hours, and you will be contented and happy ever after, so long as they last.

That article on "Shade" on page 728, is all right, according to my experience, and the item on "Wintering Under Snow," page 734, is all right too. I have tried and proved it in New England, also Iowa; but the beautiful snow is not plentiful in southern Colorado. Some of our people use earth instead, with a super half filled with chaff.

JAMES H. WING.

Prowers Co., Colo., Nov. 14.

A Beginner's Experience.

I am a beginner in the bee-business. I started last fall by buying 8 colonies in box-hives. One melted down before I got it home, and later I found they were all short of stores. I fed them dry sugar in the winter, and sugar syrup in the spring. One colony deserted its hive in April and united, of its own accord, with a colony in a cracker-box. One colony

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December Eggs.—With the cold snap of December the egg-supply usually drops off; not altogether, however, from the actual cold as from change in the feeding ration of the hens. At this time more than ever poultry needs a liberal supply of animal food to take the place of the insects and worms which the hens get on the range in summer-time. The Stratton Mfg. Co., of Erie, Pa., have just issued a very attractive book entitled, "More Money From Your Hens." It goes into the question of winter feeding very thoroughly, and describes in detail the Dandy Bone Cutter, a well built, substantial machine for reducing green bone to poultry food. The manufacturers make a very strong claim of excellence for the Dandy, and sell every machine with a warrantee to take it back and refund every cent paid for it should it prove unsatisfactory in any way after the purchaser gives it a fair trial. We know that every reader of the American Bee Journal will be interested in the Dandy Catalog. It is mailed free. Send for it, and mention this journal when writing.

was destroyed by the bee-moth, and one did not build up in time to swarm or store any surplus. The other four did fairly well. I got 163 sections of honey, which I sold at 15 cents, and hived 12 new swarms, including 3 strays that I picked up. I find one of the new colonies is queenless, so this leaves me 16 colonies to put into the cellar, and I believe all are in good condition.

It was very wet and cold the past season—no work in the sections until July. My bees were very cross the first part of the season, and tried to rob each other a great deal; even the new colonies went at it. I expected to transfer the box-hive colonies, but gave it up on account of the robbing. I will try the job next spring. J. J. VAN WEY.

Winneshiek Co., Iowa, Nov. 19.

Wet and Cold Season.

As I am about through extracting my crop I will report. I had one swarm the past season. It was so wet and cold until August that by that time they gave up the idea or notion. I have 8 colonies, and took 400 pounds of honey, fall flow, but of nice color and good flavor. The bees have plenty to winter on.

I can not do without the "Old Reliable."

A. J. FREEMAN.

Neosho Co., Kans., Nov. 19.

Bee-Keeping in the Southwest—Cleome and Foul Brood.

There are over 90 bee-keepers in Uvalde Co., Tex., and about one-half of these make a specialty of the business. Apiaries average about 100 colonies each.

On account of the drouth this has been the worst year for bee-keepers in the history of the county. Not one apiary in 10 has yielded any surplus, and many have required feeding.

The leading honey-plants of this region are a small tree called cat-claw, a shrub called wauhea, and another called white-

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brush. A plant adapted to the semi-arid region of the Lower Austral Zone, which would yield both nectar and chicken-feed, could be cultivated by the bee-keepers here with great advantage. Would cleome answer the purpose?

Foul brood made its first appearance in Texas this year, and many of us expect trouble next spring. Has any one, except Mr. Creighton, tested the rosemary cure? Would it be safe to give combs a formaldehyde bath in December, and place bees on them in February following?

I think the National Bee-Keepers' Association should bring suit for libel against the Virginia Commissioner of Agriculture. (See page 724.) One who repeats a falsehood damaging to another can not screen himself from legal consequences by prefacing his statement with, "It is said." Lying about bee-keepers will continue as long as notoriety-hunters and sensation-mongers think they can kick the bee-keepers with impunity. When they learn that bee-keepers are as good fighters as are the bees themselves, this lying will stop. The statement referred to by Mr. Ott was apparently made in the interest of the glucose manufacturers, whose product reaches the market in the form of cheap syrups which compete with honey. The commissioner does not mention these syrups, while we can not believe that he is ignorant of their composition. J. F. GARATT.

Uvalde Co., Tex., Nov. 19.

[Will some one who has experience kindly answer Mr. Garatt's questions on cleome and foul brood?—EDITOR.]

Warm Days and Cold Nights.

We are having hard weather on bees—very warm days and extremely cold nights.

Tell Yon Yonson to "line" all his Swedish brother bee-keepers into the National Bee-Keepers' Association. JOHN W. LYELL.

Washoe Co., Nev., Nov. 24.

Honey Crop a Failure—Feeding Bees.

The past season, in this section, has been an entire failure honeyward. Back from the coast 30 to 60 miles, I hear of from half to three-fourths of a crop, but next to the coast it is from a "very little" to nothing at all. Our rains were over two months late, and quit more than a month early. No rain in April, and that is the month that rains make us honey. The first rain came Jan. 24, and stopped a little after the first of March.

I came in for an extra shortage, through a brush-fire which swept off several square miles of my best bee-pasturage. Black and white sage, wild buckwheat, sumac, stick 'em brush, manzanita so dense and large as to form a complete barrier against stock—all cleaned off clean as a street. Only by the greatest exertion did I save bees, honey-house, and everything connected with the business.

All this made feeding quite necessary, and the question was how to do so the cheapest and easiest. I think I solved the question in a way that, to me at least, seemed the most simple and easy of any way I have seen.

I went to the tin-shop and bought sheets of IX tin 20x28 inches, and on the tinner's square shears cut them each into six pieces of equal size (I paid 12½ cents each for the sheets), turned up an edge ⅝ inches wide and folded the corners around. This gave me a shallow pan ⅝ inches deep, and about 8 inches square. Then I took old fruit-cans and either cut out the top or put them on the stove and melted them off. These I distributed around where I wanted to feed, and in the evening, after the bees had practically ceased to fly, I went around with a bucket of syrup, and dipping up a can full of the syrup placed the pan over it bottom up, and turned the whole thing over quickly and placed it on top of the frames, inside of an empty hive, and covered it up, the whole operation taking less than one-half minute, and I was done before the bees were fairly aware of being disturbed, and my hybrids are prompt and vicious in resenting an intrusion. I did not

(Exact size of the Pen.)

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alog? 60 illustrated pages; describes EVERYTHING NEEDED IN THE APIARY. BEST goods at the LOWEST prices. Alternating hives and Ferguson supers. Sent FREE; write for it. Tanks from galv. steel, red cedar, cypress or fir; freight paid; price-list free.

KRETCHMER MFG. CO., box 90, Red Oak, Iowa.

Agencies: Trester Supply Co., Lincoln, Neb.; Shugart & Ouran Council Bluff Iowa; Chas. Spangler, Kentland, Ind. 12E26t

27 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 27 cents a pound—CASH—for best yellow, upon its receipt, or 29 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Please Mention the Bee Journal when writing Advertisers *****

find it necessary to use smoke or scarcely a veil.

I have frames of comb in some of the upper stories, and not having empty hives enough to go around I placed the pan between the stories near the rear of the hive. I lifted the upper story up and forward enough to uncover the pan, and with a two-pound can dipped up the syrup, just nicely filling the pan, and placed the upper story back in place. This was quite as easily done as the other way. When using the old cans it is better to have some loosely woven material to place in the bottom of the pan, but many of mine had none.

This plan is old, and has been given again and again in the bee-papers; but I have not seen any means of feeding so cheap, so simple, and so easily done. A. J. BURNS.

San Diego Co., Calif., Nov. 19.

Phacelia Tanacetifolia.

At the convention of the German, Austrian and Hungarian bee-keepers held at Temesvar, Hungaria, from Aug. 29 to Sept. 4, this year, plans were proposed by which the bee-pasture could be improved, and the planting of Phacelia tanacetifolia on a larger scale was specially recommended. As this plant blooms six to eight weeks after having been sown, it may be sown so that it will fill out certain months when no honey is coming in. The Agricultural Experiment Station at Troppau, in Selesia, has tried this plant on a large scale, and found it not only a good honey-plant for the bees, but also a valuable forage-plant for stock, and recommends it for sowing in large tracts, as it has the advantage of bringing already good returns the first season in honey, forage and seed, and reproducing itself the following year by its own seed.

It is a nourishing plant; horses, cows and hogs like it.

It should be sown like wheat, and at any time as long as there is moisture. If sown too late in the fall it will come up the next spring. Cover very slightly by harrowing.

O. LUHDORFF.

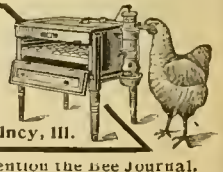
Tulare Co., Calif., Nov. 24.

Black Bees—Rearing Queens—Feeding Bees.

I am a new settler in a new country, and have more than any two men can do, but I would like to shake hands with Mr. Wm. Housel, and hurrah for the black bees as being the best on earth for the production of comb honey of first quality. I would like to pat Dr. Gallup on the back, and tell him to wade into those queen-breeders, as my experience quite agrees with what he says. However, if Mr. Alley thinks for a moment he can produce five queens of any other race that can equal my blacks next year, I will agree to put $25 in the First National Bank of this place, subject to the conditions that if the colonies they are in come up to the average with the rest of my bees he gets the money, and, if not, he is to forfeit his queens. It is money that talks. I will agree to put them in full colonies with any number of frames in the brood-nest he may direct, but it is the section honey we will count.

Well, I am not a queen-breeder, so I have nothing in that line to sell, but I think I have

$12.80 For 200 Egg INCUBATOR



Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.

GEO. H. STAHL, Quincy, Ill.

46A26t Please mention the Bee Journal.

FOR SALE.

7000 lbs. Extracted Basswood Honey, stored in basswood barrels and kits. Large barrels each holding 330 lbs. net; ½ barrels, 180 lbs.; kits, 33⅓ lbs. Prices—7½c per pound in barrels, and 8c in kits, f.o.b. cars at Viola. Cash must accompany order. Sample by mail, 10c. Address,

41A13t N. L. HENTHORN, box 83, Viola, Wis.

the largest queen-bee going, and I have blacks that work on red clover, and, as to swarming, they only need watching about two weeks every spring, and then they quit swarming and settle right down to business, and will stand considerable crowding after that without swarming, which is a big advantage in getting filled-out sections.

Some time ago experience in feeding sugar syrup was asked about. I went over the ground pretty thoroughly, in nearly every respect, several years ago, and could tell of many different experiences, but a few of the successful ones will do for this time.

Two years ago I bought several colonies of bees in the valley, in box-hives, and packed them into the mountains on horses, and among the lot were two hives that were all to pieces, so I drove out the bees into boxes and carried only the bees in them. Then I run the bees into new hives with full sheets of foundation, and fed each of them $1.00 worth of dry granulated sugar mixed with an equal quantity of water (this was the first week in September); well, they drew out about four combs each, and ripened and sealed it, wintered on it better than the others did on honey and pollen, and filled three supers each the next season, and it was not necessary for them to take any cleansing flight during the winter, as all the excrement was a little dry powder on the bottom-board. Can any one beat that for sugar-feeding?

As to feeders, there are only two kinds I would have. One is the inverted fruit-jar for outdoor feeding, the other an inverted jelly-glass with the lid full of holes for inside the hive; and my reason for liking the jelly-glass better than the pepper-box is because it is a sight feeder, and all that is necessary to do to ascertain whether it is empty or not is to raise the cover and look in.

It is worse than useless to undertake to feed after winter sets in, as I have never been successful in a single attempt to save a colony where I had to feed during the winter with anything but sealed stores in the comb.

GEORGE B. WHITCOMB.

Linn Co., Oreg., Nov. 14.

CONVENTION NOTICE.

California.—The California State Bee-Keepers' Association will hold its annual convention at the Chamber of Commerce, Los Angeles, Dec. 16, 17, 18, 1902, opening Dec. 16, at 1:30 p.m. The convention is called in December to give opportunity to ask for additional legislation. A good program is expected, and a cordial invitation extended to all who are interested.

G. S. STUBBLEFIELD, Pres.

J. F. MCINTYRE, Sec.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.

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California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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330 Market Street, - SAN FRANCISCO, CAL.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

The Nickel Plate Road

will afford its patrons an opportunity to take advantage of low rates for Christmas and New Year holidays, by selling tickets at a fare and a third for the round-trip to all points on their line, Dec. 24, 25, 31, 1902, and Jan. 1, 1903. Return limit including Jan. 2, 1903. Through service to New York City, Boston and other eastern points. Chicago passenger station, Harrison St. and 5th Ave. For further information, address John Y. Calahan, General Agent, 113 Adams St., Chicago.

66-47A5t

IT IS A FACT

That our line of Bee-Keepers' Supplies are some of the best goods in the world, and that our system of dealing with our trade is not excelled by anybody. Plenty of testimony from satisfied customers proves these things. Write and get our suggestions, our catalog and our discounts for winter-time orders—ALL FREE.

The Largest Stock of Bee Keepers' Supplies in Indiana. C. M. SCOTT & CO.,

1004 E. Washington St., INDIANAPOLIS, IND.

49A26t Please mention the Bee Journal.

If Quality

and utility are considered, we will compete on price, and Page Fence will pretty surely win.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing.

In the Interest of the Whole People.—One of the wonders of the present age to all persons unacquainted with the true conditions is the rapid growth and development of the modern mail-order house. If only the proposition could be better understood it would occasion no wonder. The object sought to be attained is so commendable and so worthy that it has met with the entire approval of the public.

That is so because the mail-order house sells everything anybody could possibly want, giving the largest possible selection and at prices which mean a saving to any purchaser. We must admit to some surprise, however, at the very rapid growth of our advertising patrons, the Marvin Smith Company, of Chicago. This is evidenced by their large new catalog of 433 pages and cover, and contains literally thousands of cuts, diagrams and illustrations of the goods carried by this young but large, enterprising and reliable house,

Our readers will remember the Marvin Smith Company as having been the largest exclusive farm implement house in the country. Their well-known reliability and responsibility in this direction induced their many friends and patrons to write them from all sections of the country, sending in orders for goods which they did not carry. It was this constant demand which induced them to add departments of hardware, tools, builders' supplies builders' hardware, gentlemen's clothing, all kinds of hosiery, all kinds of underwear, gloves and mittens, cook-stoves, ranges and heaters, sewing machines, tin and enamel ware of all kinds, lanterns, household supplies, trunks, valises, etc. By all means send to these people for their latest catalog if you have not already done so. The book is almost certain to save you money on every article which you wish to buy. Please mention the American Bee Journal when writing to them.

HONEY AND BEESWAX
MARKET QUOTATIONS.

CHICAGO, Nov. 19.—A slow, steady market may be said of conditions now prevailing in Chicago. The volume of sales are small, and the receipts are correspondingly so. 15@16c is obtained for best lots of white comb in a jobbing way, while for selections a little more is asked; amber grades, 10@15c, according to flavor, style, etc. Extracted, white, 7@8c; amber, 6@7c. Beeswax, 30c on arrival.

R. A. BURNETT & CO.

ALBANY, N. Y., Nov. 22.—Honey market is still in strong position with ready demand for all receipts at good prices. Fancy white comb, 16c; A No. 1, 15c; No. 2 and mixed, 14½@15c; buckwheat, 14@14½c. Extracted, buckwheat scarce at 6½@7½c; light grades more plenty at 6½@7c. Beeswax, 29@30c. H. R. WRIGHT.

BOSTON, Oct. 20.—Our honey market remains firm, with good demand and fair stocks on hand. Honey is not coming forward as fast as usual, and the tendency of prices is steady. We quote our market as follows: Fancy white 1-pound sections in cartons, 16c; No. 1, 15c; No. 2, very light supply, 14c; glass-front sections generally one cent less than this. Extracted, light amber, 8c; amber, 7½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Dec. 6.—We quote fancy white comb honey, per case 24 sections, $3.50; No. 1 white, per case 24 sections, $3.40; No. 2 white and amber, per case of 24 sections, $3.25. Extracted, white, per pound, 7c; amber, 6c. Beeswax, 27@30c.

Our market has changed quotations of comb honey from pound to the case.

C. C. CLEMONS & CO.

CINCINNATI, Dec. 8.—The demand for honey, both extracted and comb, has eased off somewhat the past few weeks, however the prices rule steady, as follows: Extracted, amber, in barrels, 6@7c; white clover, 8@9c. Comb honey, fancy, 16@17c; amber, 11@12c. Beeswax, 29@30c.

THE FRED W. MUTH CO.

NEW YORK, Nov. 8.—Demand for comb honey is good and same finds ready sale at from 15@16c for fancy white, 14c for No. 1 white, 12@13c for No. 2 white, and 12@13c for buckwheat. Extracted in fair demand at 7½c for white, 6½c for light amber, and 6c for dark. Southern in barrels from 60@65c per gallon. Beeswax quiet at from 27@28c. HILDRETH & SEGELKEN.

CINCINNATI, Nov. 18.—The demand for comb honey is good and prices are a little better, as the supply does not meet the wants. Extra water-white fancy is selling as high as 16 cents; other grades less, according to quality. Extracted is very active and prices are a little better; amber, 5¼@5½c; alfalfa, 6½@7¼ cents; white clover, 7½@8c. Beeswax, 28c.

C. H. W. WEBER.

SAN FRANCISCO, Nov. 12.—White comb honey, 10½@11 cents; amber, 9@10c; dark, 5@—c. Extracted, white, 6@6½c; light amber, 4¾@5¼c; amber, 3½@4c. Beeswax, good to choice, light, 26@27c; strictly fancy light, 29@—.

White is reported scarce; light amber honey in fair supply. The bulk of California produced honey is sold for Eastern shipment in carload lots from producing point at bottom price. Small lots of choice honey that can be used in local trade bring more. Quotations here given are current prices to producer, f.o.b. shipping point, on Eastern basis for extracted and California basis for comb.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

Wanted—Extracted HONEY Mail sample, and state style of package and price delivered in Chicago.

John F. Campbell, 53 River St., Chicago, Ill.

34Atf Mention the American Bee Journal.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER,

2146-2148 Central Ave., CINCINNATI, OHIO.

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BEE-KEEPERS,

Save Money by Buying

Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF

THE W. T. FALCONER MFG. CO.,

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☞ Our goods are guaranteed of superior quality in every way.

Send for our large illustrated catalog, and copy of

THE AMERICAN BEE-KEEPER,

a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)

☞ W. M. GERRISH, E. Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

Tip-Top Glass Honey-Jars

The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.

If you try them once you will likely use no other kind of top or sealing arrangement for honey jars.

GEORGE W. YORK & CO.

144 & 146 Erie Street, - CHICAGO, ILL.

$300,000,000.00 A YEAR and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

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"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.

512 MASS. AVE. INDIANAPOLIS, IND.

DAIRYMEN ARE DELIGHTED to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars. DRAPER PUBLISHING CO., Chicago, Ills.

25th Year **Dadant's Foundation** 25th Year

We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

Bee-Keepers' Supplies OF ALL KINDS *****

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,

The classic in Bee-Culture—Price, $1.25, by mail.

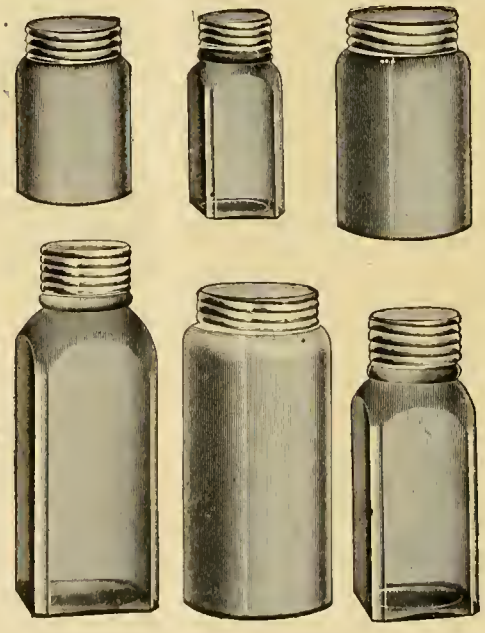
BEESWAX wanted at all times.....

DADANT & SON,

Hamilton, Hancock Co., Ill.

THE HERSHISER

HONEY-JARS.



These jars were designed for use in the honey exhibit at the Pan-American Exposition, in Buffalo, and are very neat and attractive. They have cork-lined aluminum caps which seal them tight. If honey is sealed in these jars while hot there will be no annoyance from granulation.

For exhibition purposes and a fancy trade nothing on the market compares with these jars. Put up your honey in a neat, attractive package, and sell it at a good price.

The fact that the molds are constructed for making the jars by hand instead of by machine, and the addition of the aluminum caps, make the jars somewhat more expensive than the ordinary jars. They are made in four sizes square and three sizes round, as shown in the illustration. We can supply them either from Medina or from Philadelphia at the following prices:

¼ pound Square Hershiser Jars, doz., 50c; $5.40 per gross.
½ pound Square Hershiser Jars, doz., 55c; $6.00 per gross.

1 pound Square Hershiser Jars,	Dozen, 80 cents;	$ 9.00 per gross
2 pound Square Hershiser Jars,	Dozen, $1.00;	10.80 per gross
½ pound Round Hershiser Jars,	Dozen, 60 cents;	$ 6 60 per gross
1 pound Round Hershiser Jars,	Dozen, 75 cents;	8.40 per gross
2 pound Round Hershiser Jars,	Dozen, $1.10;	12.00 per gross

These prices, although rather high in comparison with other jars, are as low as can be made on hand-made jars, and afford us a smaller margin of profit than other styles. Order a sample dozen of each size and be convinced.

THE A. I. ROOT CO., Medina, Ohio.

GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

Rearing Long-Lived Queens & Bees. C. P. DADANT.

Managing Out-Apiaries for Comb Honey. W. L. PORTER and M. A. GILL.

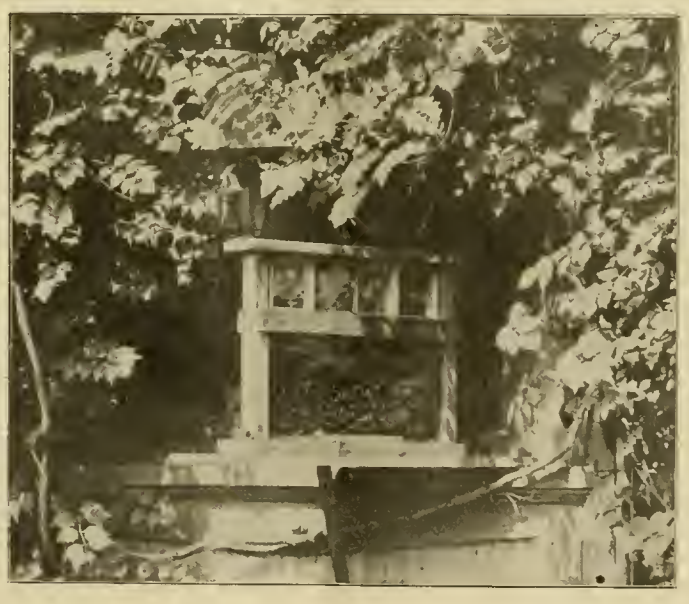
AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., DEC. 18, 1902.

FORTY-SECOND YEAR No. 51.

WEEKLY



OBSERVATION HIVE WITH BEES, BELONGING TO R. D. CLEVELAND, OF DUPAGE CO., ILL.—(See page 805.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

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SPECIAL CORRESPONDENTS—G. M. Doolittle, Prof. A. J. Cook, C. P. Dadant, R. C. Aikin, F. Greiner, A. Getaz, and others.

IMPORTANT NOTICES.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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The National Bee-Keepers' Association.

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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☞If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents, or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Forty Years Among the Bees

By DR. C. C. MILLER.

DR. C. C. MILLER.

The above is the title, and name of the author, of a new bee-book which will be ready some time in January, 1903, as it is now in the hands of the printers. It is a book that every bee-keeper in the world that can read English will want to own and read. It will contain over 300 pages, be bound in handsome cloth, printed on good book-paper, and illustrated with over 100 beautiful original half-tone pictures, taken by Dr. Miller himself. The book will show in detail how Dr. Miller does things with bees.

The first few pages of the new book are devoted to an interesting biographical sketch of Dr. Miller, which finally tells how he happened to get into bee-keeping. Seventeen years ago he wrote a small book, called, "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters.

How to Get a copy of Dr. Miller's "Forty Years Among the Bees."

The price of this new book is $1.00, postpaid: or, if taken with the WEEKLY **American Bee Journal** for one year, BOTH will be sent for $1.75.

Or, any present regular subscriber to the American Bee Journal whose subscription is paid in advance, can have a copy of Dr. Miller's new book *free as a premium* for sending us **Two New Subscribers** to the Bee Journal for one year with $2.00. This is a magnificent offer. Better send in the new subscriptions before Jan. 1, so they can begin with the new year. Or, if sent at once, we will throw in the rest of this year's numbers of the Bee Journal free to the new subscribers.

GEORGE W. YORK & CO.,

144 & 146 East Erie Street, CHICAGO, ILL.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., DEC. 18, 1902. No. 51.

Editorial Comments.

When to Put Bees into the Cellar.—Those who winter bees outdoors hardly realize how grateful they should be for being free from one source of anxiety that always confronts the man who cellars his bees. Just about now there will be some puzzling over the vexatious question as to whether the bees shall go in as they are, or wait for another flight. For some reason they have been left out till they have had quite a nip of frost, and have not flown for a number of days. Every day they continue out makes them less fit to be taken in. But there is a chance that in a few days there will come a day warm enough for them to fly. On the other hand, there is a chance that no day before spring will be warm enough for a flight, and the poor cellarer is on the rack to know which way to decide. Be thankful if you can winter your bees outdoors.

A Bright Trick With Forced Swarms was given at the Chicago Convention by J. C. Wheeler, who, it seems, has been making such swarms for a number of years. Some say that all the bees should be shaken or brushed from the combs, so that the whole force of bees may be left on the old stand; and others reply that if the brood be placed on the new stand without any bees there may be a great loss from robbing, starving, or chilling. Well, Mr. Wheeler succeeds in leaving all the bees with the swarm and yet avoiding danger to the brood after the followlng fashion:

All the bees are shaken or brushed off, and the hive of beeless brood is set on the old stand, the forced swarm near by. The field-bees will return to the old stand, and the brood will be well cared for. In a day or two the forced swarm is put on the old stand, and the hive of brood removed to a new stand some distance away. All the old bees will be sure to go to the old stand, and enough young bees will have emerged to care for the brood, thus leaving *all* the bees with the swarm, and yet running no risk with the brood.

Brushing Bees from Combs,—In a very interesting report of a visit to that veteran, O. O. Poppleton, Editor Hill, of the American Bee-Keeper, gives Mr. Poppleton's plan of getting ahead of the dodgers when clearing the extracting combs of bees:

After dislodging the greater part of the adhering bees by shaking, the frame is rested upon the other frames, while Mr. P. at the right, and his assistant at the left, each provided with strong feathers, quickly brush the bees into the hive. By thus brushing both sides at the same time, there is little chance for dodging from side to side, and it is readily cleared, and passes to the hand of the assistant, who places it in the carrier while another is withdrawn and treated as before.

Eggs for Drones and Workers.—In the British Bee Journal is copied without note or comment an article by Sir Edward Arnold, in which, speaking of rearing a queen, he says:

Simply they build a special cell, shaped like the wicker basket that is used when pool is played at the billiard-table, and thither they conduct her Majesty. There does she enter, "high and composedly," like Queen Elizabeth, at Hatfield. In that cell she deposits one of the 2000 eggs which it is her daily duty to lay, and no microscope can detect the slightest difference between that egg and the others which will turn into workers or drones. But the bees place in her cell certain special foods, and lock up its gates with certain solemn observances, after which, in 16 days, lo! there is a new queen, who shall lead a swarm or govern in the old one.

If Sir Edwin had said that no microscope can detect a difference between an egg intended for a queen and one intended for a worker, it would have been all right. But when he puts in the lot eggs intended for drones, and then says no microscope can detect any difference, it shows that he has not made microscopical examinations with sufficient care, for in an egg intended for a queen or a worker will be found one or more spermatozoa, while nothing of the kind will be found in an egg that will produce a drone.

Is Sweet Clover Good for Pasture?—Some report that cattle and horses will not touch it, others that they will eat it greedily. Both are no doubt correct; at least those who say cattle will not touch it are so far correct that cattle unacquainted with it must learn to like it. But that argument might apply to corn as a feed for stock, for it is said that cattle which grow up without ever having had a taste of Indian corn must learn to like it. Look at the cultivated taste of a cow for "slops." The family bossy will eat a mixture of dishwater and almost anything else, while a cow that has never had anything besides green feed or grain will sniff at it in disdain.

An editorial in the Bee-Keepers' Review has this upon the subject:

Sweet clover as a pasture has been condemned by some people, but down in Lenawee County, Mich., I recently saw a striking illustration of the manner in which stock will eat it down. Mr. C. A. Huff, of that county, seeded down 12 acres to sweet clover. By the way, he secured an excellent catch by sowing the seed in the spring with oats. One portion of the field was fenced off and rented to a neighbor, who put in plenty of stock, and they kept it chopped down close. Mr. Huff put in only a small amount of stock, not enough to keep the clover down, and it grew as high as a man's head nearly all over his part of the field.

Here comes a note from Dr. Miller bearing in the same direction:

"At one time one or both of the Dadants said that sweet clover would not be allowed to grow if cattle were allowed access to it when young. I don't know that I ever said so out loud, but I thought that was putting the case a little strong. For the unkindness of that thought toward such reliable men I have been personally punished. Last year I turned my horses into a field which contained a patch of sweet clover some rods in extent. It was luxurious in its second year's growth. I wanted it to re-seed the

ground, but those horses kept it eaten down so closely that scarcely a seed was allowed to mature, and whatever seed may have fallen and started into growth this year, not a thing has been allowed to continue in growth, and the place is now bare of sweet clover. Last year was an exceedingly dry season and the pasturage a little short, or the case might not have been so bad. This year has been as wet as last was dry, and the horses have had more pasture than they could manage, so another field with a good start of sweet clover has been cropped by the horses in moderation."

Balled Queens in Swarms, says G. M. Doolittle in Gleanings in Bee-Culture, are sometimes responsible for the bees deserting the hive and returning to their old homes, just as they would do if the queen had not accompanied them. The remedy he gives is to find and smoke the ball to make the bees release the queen, when a general hum of content will announce that all is well. In exceptional cases the queen will again be balled in a few minutes, when the smoking must be promptly repeated or the hive will be deserted.

Baby Bees—Too Funny for Anything.—Occasionally one meets with information about bees good enough to find a place in a comic almanac, albeit the medium may be very far from a comic almanac in character. The following sent us by Mr. H. W. Cornelison, of Wisconsin, and taken from that very excellent periodical, the Sunday-School Advocate, has been received at this office:

A BABY BEE.

The honey-bee, like every other created thing, whether beast, bird, insect, or plant, was once a baby. In the spring the empty combs, made just the right size for baby bees to grow in, are carefully looked over and made clean by the bees that were born the year before, and in these cells they lay some tiny eggs. In a few days each egg becomes a little white worm. It has a large mouth like a baby bird, and is very hungry. It is fed very often with bee-bread from the mouth of a nurse-bee. In a little while it has filled the cell with its soft, white body. Then it no longer needs food. The old nurse looks at it and seems to say, "Poor little dear, you are sleepy!" and she tucks a coverlet, which has been used before, all over the top of the cell, and goes to look after her other babies. She comes back to listen once in a while to see if it is all right, and she hears a little sound. It is the baby bee weaving for itself a blanket of the finest silken threads, for it must be wrapped up for a long nap. It is now a chrysalis, and while it is taking a long rest its preparation for life is going on quietly and beautifully. The same divine hand that formed the baby boy or girl forms the baby bee, and does it just as wisely and perfectly.

In about three weeks from the time the egg was placed in the cell, if you lift the cover and look carefully into the top of their house, you will see the top of the cell, or a little waxen coverlet, break gently. Then a tiny face peeps through the opening. It looks wondering and innocent as young birds and animals do. Then it puts two hands on the broken rim of the cell and lifts itself out.—ELIZABETH GRINNELL.

Comment is unnecessary. If "Elizabeth" should get a text-book on bees and look into a bee-hive, she might be better fitted to give instruction to Sunday-school scholars, but she can do vastly better work at writing funny things for the bee-papers by remaining in her present state of mind.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Weekly Budget.

THE CHICAGO-NORTHWESTERN CONVENTION had a gratifying attendance, especially of those outside of Illinois, and yet quite a number were absent who possibly might have been present if they had realized in advance what was to be the character of the meeting. Bearing directly upon the matter comes the following letter from one who was present:

"MR. EDITOR:—I wish I could say something to some of my brother bee-keepers within easy reach of Chicago, to awaken in them a sense of the privilege they are missing by failing to attend the meetings of the Chicago-Northwestern. It was a wide-awake convention. The time was not filled up with long, prosy papers, but the question-box, for the most part, furnished material for live discussion. Bright bits of information sparkled out here and there, some of them from men who would never have given them in the columns of a bee-paper, nor in any other way than by the stimulating influence of personal contact with other men of experience in convention assembled.

"Possibly the plan of having a convention with little or nothing prepared in advance by way of program might not be a success with a sleepy presiding officer, but with the right man in the chair there will be brought out an interchange of opinions such as can not be secured in any other way. Written papers can be read at our leisure at home in the columns of the bee-papers without the expense of traveling miles from home, long speeches are likely to bore all but those who are making them, but face-to-face discussions are the things for a live convention. The personal meeting and interchange of opinion between two bee-keepers is interesting and profitable in nearly every case, and when, by set agreement, the number of such persons meeting runs up into the scores, embracing in their number thoughtful men of large experience, it is hard for any one to attend without carrying away a considerable fund of useful information. Add to this the social feature, the hand-grasp of old and new friends, and those who have never attended a live bee-keepers' convention little know the treat in store for them if they attend the next meeting of the Chicago-Northwestern."

MR. JAMES H. FISHER, when sending the pictures shown on this and the next page, wrote us as follows:

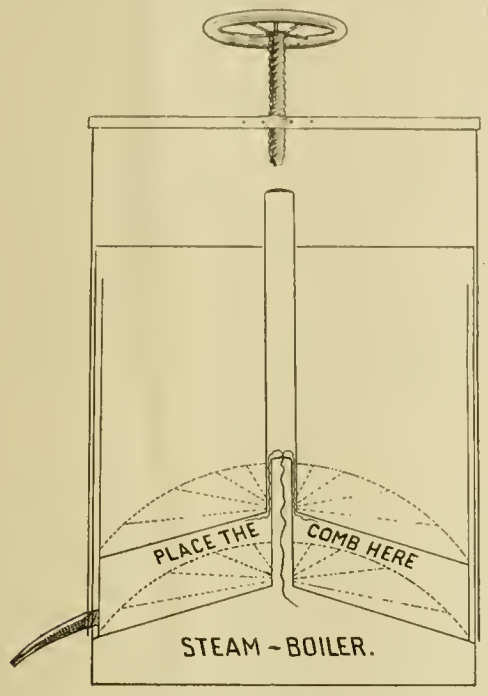
I have been sitting on the fence and watching the bee-keepers in this vicinity for about six years, and now I am about ready to come down and start for myself. I have experimented for six years. I have 9 colonies in good shape.

I will send a picture of my apiary and Mr. Beitel's,

Mr. and Mrs. Fisher, and the Wax-Extractor at work.

combined; also a picture of my wax-extractor in operation, showing my wife and myself.

This extractor is an improvement over the Swiss. It has a cone-shaped bottom so as to make it strong to resist the screw; a cone-shaped plunger to work freely so as to



Outline of Mr. Fisher's Wax-Extractor.

follow down the combs as they melt, and keep the steam in contact with same. It is guided at the top lid so it has to stay straight. The steam comes up the small pipe from the boiler into the larger one in the plunger, then down, and carries the wax out to the screen; from there it goes to the outlet pipe to a dish or pan to receive it. Too much pressure must not be put on the screw, for the more pressure you put on it the higher the steam pressure. The steam will carry the wax out to the periphery of the machine, and there will not be any left in the refuse. It works to perfection, as the smile on the faces tell.

Northampton Co., Pa. JAMES H. FISHER.

THE DEATH OF A. I. ROOT'S MOTHER is announced in Gleanings in Bee-Culture. She died full of good works and full of years, having lived another score of years beyond the "three score years and ten."

MR. R. D. CLEVELAND'S observation hive with bees appears on the first page. He has this to say about it:

I send herewith a photograph of one of my hives which, perhaps from its singularity, your readers may find more interesting than one of my whole apiary. As you will see, it is an observation hive which I made myself, and have placed on a bracket shelf attached to the sill of the sitting-room window.

I took a comb of brood with two queen-cells and all the bees and put in the observatory, and they went to work as if they had always lived there. The queens hatched in about a week, but we never saw but one of them. A few days after we saw "H. R. H." return from her bridal trip, and since we have watched all the various stages of housekeeping and rearing "children." I also added a four-section super, but the honey-flow was so scanty that they would not go up. I tried a section of uncapped honey for bait, and they took it all right, but left an empty comb. I intend to try again next year, and hope to get them to work in the super.

I am sure if bee-keepers knew how easy an observation hive is to make and manage, and how interesting and instructive it would be to themselves and friends, no apiary would be without one. RALPH D. CLEVELAND.

Convention Proceedings.

THE DENVER CONVENTION.

Report of the Proceedings of the 33d Annual Convention of the National Bee-Keepers' Association, held in Denver, Col., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 790.

THIRD DAY—AFTERNOON SESSION.

At 2 o'clock Pres. Hutchinson called the convention to order, and requested Mr. W. L. Porter, of Colorado, to read his paper on "Managing Out-Apiaries for Comb Honey."

Mr. Porter—As the topic assigned is on producing comb honey in out-apiaries, and as that is about the same as producing comb honey at home, therefore the paper will cover a kind of synopsis on organizing an out-apiary and running it.

MANAGING OUT-APIARIES FOR COMB HONEY.

The out-apiary is an invention of the specialist, that is, of the bee-keeper who devotes his whole time to bee-culture, depending on it for his income. In a country where the honey-producing plants are scattered, he finds it necessary to keep more bees than one location will furnish flowers for. In order that he may have a full crop he seeks a new and more favorable location.

In an out-apiary three things must be considered: 1st, Location. 2d, Stock of bees. 3d, Method of manipulation.

In seeking a location it is important that the bee-keeper should keep in mind three important facts, viz.:

1st. There must be an abundance of honey-producing plants.

2d. This must not be already stocked by other bee-keepers.

3d. A favorable place to set the hives must be found. The land should slope gently to the south, with shade; on the north and west protection from the wind.

After a suitable location has been found it should be stocked with bees which have been bred with special reference to hardiness, to insure good wintering; strong wing-power, for long flights and to resist the wind. They should have energy and good comb-building qualities. There should be colonies enough in a place to make it an object to spend a whole day in one yard to furnish work for the bee-keeper and his assistants. The hives should number from 100 to 150. It is necessary to have a bee-and-mouse-proof building large enough to hold supplies for a year's crop of honey and increase.

In winter the bee-keeper should make visits from time

Messrs. Fisher and Beitel in their Apiary.

to time to prevent robbing weak or queenless colonies, especially those weak or dead from foul brood. In spring the out-yards need watching for colonies which may need feeding, and later all need stimulative feeding that they may be in full strength for the honey-flow. Before plants or trees bloom wheat-flour may be fed to be used in place of pollen, and the honey in the hive may be unsealed, and, where necessary, combs of honey given them.

A very important problem which presents itself is the control of swarming. Many methods are used by different bee-keepers. Some make a practice of clipping the queen's wings, and allow natural swarming. Others dequeen the hives entirely. Whatever method is employed, two things may be profitably considered: 1st, That shaded colonies having plenty of storage-room are less apt to swarm than those under opposite conditions. 2d. That a stock of bees may be carefully bred which is not predisposed to swarm.

At the home of the bee-keeper there should be a commodious workshop, well lighted and heated for winter work. Here all hives and supers should be prepared and sections filled with foundation. As fast as these are ready they should be moved to the buildings at the out-yards. Thus, everything is made ready for the rush of the season. As fast as the honey is finished it should be taken off the hives and stored in a warm, dry room. There the sections should be cleaned, the honey carefully graded and crated. The earlier this is done the better prepared the bee-keeper is to meet the demand for early comb honey at high prices.

Managing out-apiaries for comb honey is not easy work. It is continuous work the whole year. It has some disadvantages over having all one's bees at a home yard. Much valuable time is lost each day on the road to and from the yards. But there are great advantages. In one locality, from one or another cause, the bees may dwindle badly, or the flowers may fail, then if the bees are all there a complete loss results. At another yard, perhaps at a short distance, conditions may differ so that there is a full crop and some profit is realized. Different parts of the country vary so that in one State it may be advisable to concentrate the stock; at another to scatter it widely. Each bee-keeper must study and adapt himself to the conditions of his own environment. There is one principle that applies to all localities: To get good results in comb honey it is absolutely necessary to have all hives full of bees at the time of the honey-flow. W. L. PORTER.

Mr. Gill, who was to have responded to Mr. Porter's paper, not being present, and being engaged on a committee, the President stated they would proceed with the discussion of the paper without waiting for the response.

R. D. Williams—I have four out-apiaries, and I have never any use for a honey-house. When the honey is ready to take off I go with a wagon and haul it home; I think it is cheaper than to build a honey-house, and I don't think it is necessary; if a person is careful in taking the honey off he will have no trouble. Cover it up well, and you can get away with it all right.

R. A. Wilson—What is the best plan for handling the swarming question in out-apiaries?

Mr. Brown—In our locality [California] our out-apiaries are usually managed by dividing. We go through perhaps once in ten days and divide all colonies that have any indications of swarming; and about two or three times over is sufficient,

W. P. Collins—Do you take the brood-frames and remove them from the hives you expect are going to swarm?

Mr. Brown—Yes.

Mr. Collins—What do you put back?

Mr. Brown—Empty combs.

Mr. Collins—That you had brood in the previous year?

Mr. Brown—Yes; take them from the extracting super.

W. L. Hawley—I understand this is for comb honey. I have two out-yards that I run for extracting, and the swarming does not trouble me very much; but if I run it for comb honey it would fail entirely. I think the system of removing or dividing is all right for extracting, but when it comes to comb honey, it is a question.

Mr. Collins—I have seen hives prepared that way for comb honey, and I have taken five frames out of an 8-frame hive, and, in eight days after, I have seen a swarm cast. It is a very doubtful question whether we can produce comb honey in that way. My plan is to have two hives for one colony, and shift my colony, and fix the honey hive so that the hatching bees for the next 21 days pass continually through into the new hive; and it is not once in a hundred times that a swarm will issue.

S. Francis—I have had a little experience in managing some out-apiaries, and we have practiced the shaking-out plan; we have the colonies all in good shape, and they are about ready to swarm, and we have the stands arranged in pairs. We take the queen from one and shake all the bees from the other, and then make one colony of the two; we take the one we took the queen from and put it on another stand, and put the new stand on the one we took the queen from, and in that way we get all the working force into one colony.

Mr. Ivy—I would like to ask those people who recommend that plan if that does not interfere with the bees storing comb honey? Do they continue as well after the manipulation as they did before?

Mr. Collins—As far as I am concerned I followed out the plan from which I suppose it has hindered a little the storing of honey. Where I have allowed the hatching bees to pass out through the hives which I shift the colony onto, I have been unable to see any difference. The plan Mr. Porter has spoken of is the one I follow where I want an increase. If I don't want it I attach the old hive to the new one so that every bee, in order to reach the field, must pass through the new one, so that when the worker returns he will return and stay in the new one.

I never had any die, and it is the handiest way, by far, because it saves a second shaking.

Mr. Hutchinson—Mr. Gill, of Colorado, is now here, and will respond to Mr. Porter's paper.

MANAGING OUT-APIARIES FOR COMB HONEY.

When W. L. Porter has told you what he knows about running out-apiaries for comb honey, there is nothing left for me to say. But I will attempt to make a few comments and add a few suggestions.

What Mr. Porter has said about locating of apiaries and about certain strains of bees, is terse, and to the point, and any one will find it profitable to follow his advice.

In locating an apiary I like to have it convenient to drive to, and have at least one approachable side where I can drive to and from with my loads without being in an exposed place with my team.

If I had everything just as I want it, I would prefer to have only one shop and honey-house. I would have a good shed at each out-apiary, under which to set supplies temporarily that were not in use. I like a good wagon adapted to the business, a Daisy wheelbarrow, and a large wagon-sheet. All supplies would be hauled from the central location to the out-apiaries, and all honey loaded right from the hives onto the wagon and taken to the central location, where it would be cleaned and cased ready for market.

With regard to the kind of hives and fixtures, and as to some particular strain of bees or some particular mode of management, I would say, follow no fad beyond the practical point. There is a limit as to how far we shall carry out the minor details in the management of out-apiaries that is certainly found between the practical and fussy plans for such work.

In the running of several out-apiaries for comb honey there is a constant demand upon our energy, and while what Mr. Porter says about valuable time being lost in traveling from one apiary to another is true, we find that there is rest in the variation, and that the changed scenes and conditions help to keep the work from sameness and drudgery.

Again, much depends upon being prepared, and if you are running a number of out-apiaries, and haven't faith in your business, and faith in the promise of a seed-time and harvest enough to prepare for a crop during the winter and early spring, you do not deserve a crop, and, in fact, can not secure one.

At the close of the season finish your work just before the bees finish theirs. Don't leave on a part of the supers perhaps all winter, but remove them, and take good care of all drawn combs, as they are valuable next season.

August and September is the time to put bees in condition for next year's crop.

In conclusion I would say, don't let this season's work lap onto next year's work, but put your bees in good condition, clean up all your honey, both comb and extracted, and sell it. Save and make all the wax from combs that accumulate.

If you are going to be a honey-producer, produce some, and when you get it produced sell it to some one who likes to dabble with pints and pounds, and turn your attention towards producing some more. M. A. GILL.

Pres. Hutchinson—In order that some one may pass upon the exhibits, I would ask the Vice-President to take the chair so that I may get the committee to work.

Vice-Pres. Harris—Is there any discussion upon this response read by Mr. Gill?

J. Merkley—Mention is made in the paper about the Daisy wheelbarrow. We are using what I call the daisy wheelbarrow; the handles run straight to the wheelbarrow, and are hinged at the top, and there is a spring under the top that rests on a top-bar running down to these handles. That will explain the construction of the machine. We have tried the Daisy wheelbarrow and several other kinds, and this is far ahead of anything we have used. It is simple to make—a thing you can make yourself if you so desire.

Mr. Ivy—I would like to ask Mr. Gill, who recommended saving all drawn combs, whether he would use those combs the following season for the purpose of putting up comb honey, and, if so, can he have stored a first grade of honey in those combs?

Mr. Gill—I don't say I can put up a first grade of honey, but I can put up honey that will sell this year.

Vice-Pres. Harris—If there is no further discussion I will appoint Messrs. Gill and Rauchfuss to escort to the front Miss Ellen Grenfell, Colorado's lady superintendent of schools, whom I have the pleasure of introducing to you. She is one of the best educators, and one of the most brilliant women that the State of Colorado has ever had in the position.

ADDRESS OF MISS GRENFELL.

After that very flattering introduction I feel as if I would like to go to the back part of the room again. I came up here not as one understanding the scientific matters regarding bees and honey, but simply as a person, who, being very fond of honey indeed, was naturally attracted by any gathering which tends to increase the production of honey in Colorado and the United States. As a school teacher, and one engaged in school work for about 20 years, I have every reason in the world to speak highly of bees. I don't know what the educational people would do if they did not have the little busy bee to hold up as an example to the rising generation as to how their work should be pursued; there certainly is not a creature after which the young people have been requested to pattern their ways as much as that little creature known as the bee.

We feel very much honored—we in Denver and in Colorado—to have you meet here from all parts of the United States.

I came to Colorado so many years ago that I don't believe there were half a dozen hives or colonies in this State; I came when there was no railroad in the State; and I know that for some time they were very unsuccessful indeed in keeping bees here and producing honey; and I remember when honey was a dollar a pound right here in Colorado, and to a child who was fond of honey that was a serious matter; and I personally have a feeling of deep gratitude to those pioneers in bee-culture who persisted in spite of repeated failures, and finally have placed Colorado among the leading honey-producing States, that is, in proportion to the amount of farming land we have, and to the amount of agricultural facilities we have in this State.

We hope you have had a pleasant visit here. We have all appreciated your visit, and we hope that you have mixed the sweet in with the work of your gatherings. I have read with much interest the account of your meetings in the papers, and I realize how much it means to have an intelligent body of people gathered together and paying attention to these details of the work. Years ago it would have been thought perhaps a strange thing that people would travel from all parts of the United States—and I notice delegates even from Canada—to consider such a thing as producing honey and bee-keeping, and yet here you are; it shows that you have dignified the business, that you are bound to make of it truly a scientific thing, and that means that there will be great improvement, because when a body of earnest people put themselves to work to understand thoroughly the conditions and to improve them, it means that the whole business is going to be elevated, and that better results will be derived than otherwise could have been the case. The great things that have been accomplished in this world have not been by hit or miss work among individuals, it has been by the steady, continued, persistent, systematic effort of the people all over the country who are engaged in that particular line.

Now, I have taken too much of your time, you have so many valuable things to discuss; but I thank you very much for giving me this opportunity to meet you, and I am looking forward with much pleasure to the discussion to be brought up here this afternoon. (Applause.

(Continued next week.)

Contributed Articles.

Rearing Long-Lived Queens and Bees.

BY C. P. DADANT.

I HAVE read with interest the numerous articles and valuable discussions on the above subject, in the American Bee Journal, for the past five months. Dr. Gallup's renewed mention of our name prompts me to present my views on the matter.

I want to tell the reader that perhaps he does not know Dr. Gallup as well as I do. My acquaintance with him dates back to 1867. I was then 16 years of age, and, though a novice, I was much interested in bees, for my father was already beginning to succeed with them on a comparatively large scale. Gallup's articles were among the first I read. He became noted at once for his practical methods, his pithy arguments, and the forcible way in which he expresses himself. At that time the contributors of the American Bee Journal were very few, and Gallup is one of the few remaining. I have kept the entire file of the American Bee Journal since the beginning. It was then, as it is now, the open field for discussion, free to all who kept within the limits of good-nature. Its first editor, Samuel Wagner, set the example, so well followed by his different successors, of refraining from influencing the deductions of the readers by any criticisms of the ideas advanced, unless evidently improper or incorrect. It is a pleasure to go back to those files, bound by my father in a simple way, and with leaves yellow from age, and see how many of the so-called new ideas that are presented now were talked over at that time by our elders. "*Nil sub sole novum*," says the proverb—"Nothing new under the sun," and many of the new things are only old things renovated, or presented under different conditions.

The "umbilical cord." This new presentation by Gallup and Doolittle would explain to me a thing at which I have often wondered. I have often asked myself whether the larva ate anything after it had begun to stretch in the cell. The food is at the bottom, the larva stretches with its head outward, therefore the food is behind it. Does it cease to eat as soon as it stretches in the cell at full length, or does it turn about once in a while, or does it absorb food through its skin, or is there a feeding canal—an umbilical cord—as Gallup says very properly, to help it to feed itself until it needs nothing more? I have looked through our scientific works in vain for the umbilical cord. Cheshire, Cowan, Cook, all say that the bowel of the larva is closed so that it cannot pass any dejections; they assert that most of the food is taken through the mouth, or perhaps through the pores of the abdomen. Cheshire states plainly that the larva turns about in the cell to throw up its stomach-lining, and lap up its remaining food previous to metamorphosis. I quote:

"The imprisoned larva, having a little more than enough room for turning, must be freed of these objectionable resdua, but Nature is equal to the difficulty, accomplishing all in a manner commanding our admiration. In a word, the larva turns its head upon its stomach, and pushes the former toward the base of the cell until its position is reversed, the tail being outwards, and, thus placed, it laps up all residue of food, especially from its old clothes (the previous moultings) previously referred to, until they are dried and practically occupy no space. It now throws up its stomach and bowels, with all their contents, and without detaching them from its outer skin, which is moulted as before, but, in this instance, to be depressed against the cell so as to form for it an interior lining....It now turns its head and resumes its old position...."—Cheshire Vol. I, page 21.

The above is concerning the worker-bee. Of the queen he says:

"The skin and bowel are indeed cast as by the worker, but they are not spread out on the cell-wall. The bowel, relatively small, and containing little waste product, is thrown against the side of the cell, just below the mass of royal jelly; and here the skin of the body is placed also, where both can always be found, by opening a queen-cell, on the third day after sealing." Here he adds: "During the earlier part of the changes, the developing insect ad-

heres, by the dorsum, to the wet royal jelly, and probably continues to take nourishment through a part of the skin." (Page 243). Here he touches the point for which we are looking, but says nothing of an umbilical cord.

I do not happen to have Prof. Cook's latest edition, I think I loaned it to some one, but one of his former editions is at hand and he says: "They [the larvæ] have a mouth with soft lips and weak jaws, yet it is doubtful if all or much of their food is taken in at this opening. There is some reason to believe that the honey-bees especially, like many maggots, absorb much of their food through the body-walls."

Cowan, while repeating the same thing, or about the same, on the intestine being blind and passing no dejections, adds that the larva absorbs the food "by the mouth, and likewise by that portion of the body floating in it."

If there is an umbilical cord—and there is one if Gallup and Doolittle have not mistaken something else for it—it is time that our scientists found it. This would not be the first time that practical men had compelled a discovery by pointing to it. The soft nature of the grub or larva renders the study of its physiology rather difficult, and that is perhaps why this has not been brought to light. But if there is an umbilical cord, it surely exists in all the bees, and is only larger or smaller, sooner or later destroyed in each one of the insects. Thus of course the best queens would show it best. I appeal to Prof. Cook, Prof. Benton, Prof. Gillette, Mr. Cowan, and all our other microscopists, to investigate this subject, and let us know what they find. Our text-books must not ignore this if there is anything in it.

Now as to the practical part of the arguments.

There was a time when we reared queens for sale on a large scale. The Italian bees were then scarce in America, and the queens were in demand to supersede the black or common race. We never attempted to rear queens in any large quantity under the swarming impulse. Our queens were reared by removing the queens from a large colony, usually the strongest in the yard. When the cells were mature they were removed and placed in nuclei in which they hatched and became fertile. These nuclei were made with two or three frames of brood and enough bees to keep it warm. Some of the best queens that we ever had were reared in this way. It would be a waste of time for any one to tell me that our bees were inferior, for I know better. The crops that we harvested were the evidence. If the rearing of the queens in this manner had been an injury, we should have had an inferior race to the common bee whose queens were all, or nearly all, reared by the swarming impulse in box-hives of all sizes. But our Italians were ahead of the blacks in every instance. A little later, we know that a great many queens were reared that were inferior, all through the country. I ascribe this fully as much to the in-and-in breeding resorted to, owing to the desire for yellow bees, as to breeding in diminutive hives. The Italians were yellow, and every one wanted yellow bees. The yellower they were the purer they were thought to be. Thus quality was set aside for color. I believe my father was the first to talk about leather-colored bees. These were better. Why? Not because of their color, but because they were bred in reference to their producing quality, and not in reference to color.

Dr. Gallup speaks of queens living 6 years, and occupying 36 combs. Such queens are exceptions. I never saw one. We used to clip the wings of our queens, and know that the average is 3 or 4 years. Unless a queen's wing is clipped it is next to impossible to assert that it is the same one, from year to year. Dr. Gallup may say that we had no such queens as he describes, because we did not rear them under the swarming impulse. But he will surely acknowledge that when one has had bees for nearly 40 years, one has seen queens reared in the natural way by the bees under the swarming impulse. It was the queens that had the strongest colonies which we clipped, because we feared to lose them.

Now as to longevity of workers. I feel that I am in very good company when I am with Dr. Miller on any point. Dr. Miller often says, "I don't know," but that gives him so much more strength when he says "I know." I hold, and think that he will back me in it, that there is not a queen in existence whose bees live from the first of May to the first of September. I say this because I have in years gone superseded many queens of the common variety with Italian queens—of course, had all been reared in the natural way—and I make bold to say that not a single bee will remain on the first of September from eggs laid in April. But if the queen is changed in August there will be many bees still left on the first of April. I believe that nine-tenths of the bee-keepers who have tried it will agree with me. This gives plain evidence that the main cause of short life is in the wearing out of the wings and the accidents, storms, rains, enemies of all kinds, etc. When there is plenty of honey in the field the life is short and the queen must be prolific to keep up the numbers; but when there is nothing in the fields, and the bees stay at home, they have much more chances of long life. The bees of a queenless colony will live longer, because they become apathetic and stay at home.

I am very free to acknowledge that Gallup is right when he says that if we want long-lived queens we must rear them in propitious conditions, and not have her stinted and stunted by cold or want of food. I am also very free to say that the Doolittle method is the very best that has yet been devised, to my knowledge, for queen-rearing. This is known not only here, but on the continent where Doolittle's name will be fully as famous by this discovery as by all of his numerous writings. If Gallup is properly named, since he gallops ahead in spite of his 82 years, and shows us the path, I must say that Doolittle has been given the wrong apellation, and should be called "Domuch." But, gentlemen, I cannot agree to condemn all queens that are reared by other means, if they are reared with plenty of food, and plenty of warmth, in a colony that is not suffering.

Gallup says, on page 680: "Mr. Dadant, Mr. Hetherington and Mr. Quinby, all successful bee-keepers, use large hives, but they do not use hives four times as large as a 10-frame Langstroth hive." Beg pardon, but my father, who was always trying something new, did try hives with 24 Quinby frames, and found them *too large*. He had some 25 or 30 of these. Then he concluded that perhaps what the queen wanted was a large sheet of comb, so as to lay eggs uninterruptedly for twenty-four hours or more without having to pass on to another, and he had us build hives with frames 18x18 inches—a small barn. They were entire failures. No, Dr. Gallup, we are as much as any one the champions of large hives, but the man who expects any queen, no matter what she is, to fill more than 13 or 14 Langstroth frames full of brood and keep them full at one time, will find that he has to hunt for a very great exception. Exceptions do not make rules, but confirm them.

I beg to be excused for writing such a lengthy article. This is not my practice, but I wanted to view the matter from all sides. I will sum up by saying that in my opinion we must rear our queens in good, healthy colonies, of good, prolific stock, not breed too much from just one strain, try to rear queens and drones from different mothers, and look to prolificness rather than color in our selections. I cannot see any other way than to breed from those colonies that have given the best results. It is after honey that we are, and the best queens will come from those colonies that have produced the best crops. Hancock Co., Ill.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Our Sisters in England.

"One of our most prominent bee-keeepers a year or two ago wrote an article on our hobby as an occupation for the gentler sex, and at the time I felt perturbed, as I dreaded that a great and mighty Amazonian host might join the ranks and oust all of us who are mere men. The lapse of time, perhaps, or the discovery that affairs have undergone no serious revolution, have soothed my nerves and enables me now to view the matter with perfect equanimity, and I feel no perturbation of spirit even when reading over the list of new experts on page 381. Thirty-six ladies have obtained the much coveted certificate, as against twenty-six gentlemen. That must mean that the cult is extending and finding special favor amongst women, or that those going forward give more attention to preparation for the oral and written part, as well as the manipulation of hives, so as to be better fitted for passing the examination with credit. I understand they are apt pupils, and, as might be expected of their sex, readier to respond fully and promptly to the questions of the examiner. They are tactful and full of resource in manipulation, and their smart and active, yet

neat and gentle, movements tell in their favor in capturing queens and handling frames. Even in regard to the heavier and more trying calls on their strength and endurance, I remember one of the examiners once wrote words of praise and commendation."—D. M. M., in the British Bee Journal.

This shows that the women of England are pushing to the front, for 36 women against 26 men obtained certificates. That speaks well for the women. Also that the journals are willing to accord to the weaker sex their full rights and privileges.

Bee-Dress for Women—Smoker-Fuel, Etc.

On page 713, the statement is made, that bees will sting anything black more readily than any other color. Miss Wilson says:

"If there is anything our bees seem to object to, it is something black. I have known at least a dozen cross bees at a time to attack the black head of my hatpin, that being the only black object in sight."

Does Miss Wilson not wear a veil? Does not that cover at least 3 inches of the hat, making the rim black, besides wearing it over the face? If bees have such an antipathy to black, why is the black net unanimously adopted for protection by all bee-keepers? and why do not the bees sting the veil? Our veils would be attacked and covered with bees all the time, if they had such a keen appreciation of the difference of the color. Indeed, I have many times forgotten and looked over a whole hive with my black veil thrown up, entirely covering my hat, and not experienced a sting.

No, bees do not wait to see what colored shirt-waist you have on, but they scent what odors are objectionable, and if you have been doing light housework, or have been about a domestic pet, such as a dog, or a horse, their sense of exquisite odors are so acute they recognize it as a foreign odor, and sting immediately. I make it a rule never to wear my bee-dress outside of the yard. I disrobe on returning and leaving the yard. No, the grand secret of no stings is a perfectly clean garment, starched is best,and if worn only in the yard it will attain a peculiar sweet odor from the ozone of the hives, which, whether black, green, yellow or any other color, our little pets will delight in and never sting. Of course, there are a few mad bees that will sting any way, and when I have a colony that is cross I handle them very firmly, not nervously (a good bee-keeper ought not to have nerves); I give them a reasonable quantity of smoke, and talk to them; they learn in time to know my voice; and, right here, I want to say, with all due deference to the statement that bees cannot hear, I say bees can hear. I don't "think they have ears, but that sound reverberates almost with electric rapidity" though their little bodies, and is the same to them as hearing is to us, one cannot doubt. You cannot walk past a hive without attracting their immediate attention; and just fire off a gun in or near the apiary, and see what an uproar it will cause at each and every hive. Tap on the hive, and how instantaneous is the result. I cannot see how any bee-keeper can say that bees cannot hear.

I left my apiary for a month; they wrote me the bees were robbing, and on my return I was worried. I entered the yard without veil or gloves; I went up to one very strong colony and spoke to them, and they all came running out, tumbling over each other. I thought I would get badly stung, but instead they just fluttered their little wings and returned to their hive without attempting to sting me, as much as to say, "You are here; we are all right now." Three other persons witnessed this extraordinary discernment of sound, and remarked it.

However, to resume: I smoke a cross colony three times, with an interval of, say 10 minutes between, and usually after three times smoking. I can open the hive and handle the bees with no further trouble.

Now as to the wearing of gloves. I think no bee-keeper ought to handle bees without them, because the hand naturally perspires, and this is exceedingly objectionable to the bees. I always wear a pair of kid gloves that come well up on the wrists, with the finger-tips cut off, so that I can feel when I lift the frame if there are any bees under my fingers, because if I squeeze and hurt them, they will sting, and the gloves are no protection then, because the stings penetrate, so one is better protected with the finger-tips of the gloves cut off. Take an old pair of kid gloves, with no holes in them, rub beeswax well into them, back and front, place them in a warm oven until the wax has thoroughly permeated the kid, and you have an ideal covering for the hands, and our little pets will alight on the gloves, crawl over them, and never sting, because the scent is agreeable them. I have written this before, for the sake of humanity to the bees, and comfort to ourselves. I wish every bee-keeper would adopt this method of wearing waxed gloves, as it also prevents the perspiration from saturating the gloves.

And now, with regard to fuel for the smoker. I have tried everything for 15 years. I find chips from the wood-pile make the fire too hot, and sparks fly out of the top. I find rotten wood too hot, and also sparks and cinders fall out of the top. I find excelsior burns out too quickly. I use old sack, cut in pieces, say 4 or 5 inches square. I dip one corner of the piece in coal-oil, and light up the smoker; as soon as it is about ½ burnt out, I put in 2 or 3 pieces more, thus creating a smouldering fire which if renewed say every ½ hour or 1½ hours, according to how rapidly it is blowed, I get a good volume of smoke, with no spark or cinders to annoy the bees or cause danger of fire. Saltpeter I have never used, but if it caused the sack to burn more quickly, it would not answer my purpose. In this way I have kept rags smouldering for 3 hours, and while I go to lunch and back.

I bought a Bingham smoker 10 years ago and am still using it. I had to have a new funnel made, but the body is as good as ever, and the tin is not burned out yet.

I started bee-keeping with D. A. Jones, of Canada, and the dress I wore then, I think, can never be excelled for coolness and comfort. My dress was grass-linen, with blouse waist, ruffles at the neck, and buttoned at the wrist, and an elastic run into the blouse at the waist, fitting tight over an ordinary gored skirt with a deep hem, a pair of bloomers of grass-linen, with elastics and a ruffle, fitting over my boot tops—thin kid boots, not laced too tight; a white hat, with a strip of Victoria lawn hemmed at each side, and made long enough to tie with bow and ends, which could be removed, and laundered and replaced each week with a clean tie.

I have been reading with much interest the different methods of queen-rearing, and although I have only reared queens for my own apiary, I wish to say, that D. A. Jones had all his $10.00 queens fertilized in those little hives, which I believe Mr. Alley is now using. I think Mr. Jones and Mr. Frank Benton were the first to use them, the latter for shipping from Italy, and many a beautiful leather-colored queen, with her 3 black dots, have I seen liberated out of said little hives. The small hive is no new idea—Mr. Jones had hundreds of them. This winter I will write an article on his method of fertilizing queens on the Islands of the Georgian Bay, of which there are 27,000.

Maybe Miss Wilson had a little sister who had inadvertently handled that hatpin with sticky hands, or else the bees mistook it for the center of a flower; certainly the odor was objectionable if they were stinging it.

Sonoma Co., Calif. MRS. F. S. A. SNYDER.

Yes, you are right, the veil I wear is black; mine is sewed under the brim of my hat. I had for the moment forgotten it, but the veil is not nearly so black as the head of the hatpin or black cloth, as only the thread is black, the larger part of the veil being open-work or holes.

We don't all think alike about wearing gloves. While you and I prefer to wear them, the larger majority of bee-keepers could not be induced to wear them, as very few men wear them, I believe.

Your fuel is excellent. Mr. Cogshall uses gunny-sacks for fuel. He rolls them up, I believe, in a roll, ties them at intervals with a string, and then with an ax chops them up the right length to go into the smoker. I am surprised that you are bothered with sparks and cinders from the chips. We are not troubled in that way.

Those small nucleus hives have been in use a long time. I don't know how long Mr. Alley has used them, but Adam Grimm used them many years ago, probably before Messrs. Jones and Benton started on their bee-keeping careers.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Growing the Basswood for Bees.

1. When is the best time and the best way to plant basswood seed?

2. What will be the best time of the year to transplant basswood trees?

3. How old is the basswood before it blooms?

4. Will it pay to plant 2 or 3 acres with basswood for the bees to work on? WISCONSIN.

ANSWERS.—1. Raising basswood from seed is, I think, generally considered a troublesome thing, and I have never seen any account of any one making a great success at it. A row of about 25 trees runs from my house to the public road, and every spring a number of seedlings spring up, but never live to the next year. This year I saw hundreds of them when they were two or three inches high, and I've just been out to look over the ground and I cannot find a single plant. What becomes of them is a mystery to me. Judging from the freedom with which these have sprung up, I should say it best to plant in the fall, covering the seed from a fourth to half an inch.

2. In Wisconsin I should transplant in the spring.

3. I don't know. Perhaps ten years. Plants that shoot up from the stump of a tree that has been cut down will bloom in less time than those starting from seed.

4. With low priced land it might pay well.

Filling Combs with Honey.

Is there any demand for a feasible method of filling honey or syrup into combs? ILLINOIS.

ANSWER.—Probably not. At one time it was more or less common to fill syrup into combs with which to feed bees, and some excellent plans for that purpose were devised, but such improvements have been made in bee-feeders that it is somewhat doubtful that any one would care to fill syrup in combs.

Swarms Crawling Out After Hiving—Management for Extracted Honey.

1. I have 40 colonies of bees, and last summer when they were swarming almost every young swarm would come out over the new hive one, two and three times before I could get them to stay. What was the cause of this? How can it be stopped?

2. Which is the best way to handle bees for extracted honey, to let them swarm naturally, and then let the young colonies store section honey, or build colonies, say about one colony from two old ones, or divide them in half, or shake them off the combs in a new hive? This year I let them swarm, and extracted from the old ones, and put sections on the new colonies. I got 80 pounds of extracted honey, per colony, in spite of all the cold, wet weather. WISCONSIN.

ANSWERS.—1. It is quite possible that the new hives were too warm, because too close. If that was the trouble, the way to prevent it would be to give more abundant ventilation. When the swarm is first hived, see that the hive is shaded in some way, raise the hive from the bottom-board an inch or so by blocks, and for a day or two raise the cover or shove it partly off, so that there may be a free circulation of air through the hive. It is a good thing in any case to take these percautions with newly-hived swarms.

2. It is a hard thing to say what is best for each individual. The plan which has already proved so successful in your hands may be best for you, although you can only be sure about it by giving both plans a trial under the same conditions. That will not be a very hard thing for you to do.

Bee-House for Winter—Text-Book on Bees.

1. I am new in the bee-business, and have 7 colonies. I want some advice about my bee-house. It is 7x16 feet, paper on two sides, shiplap over that on the inside. There are two windows on top. Is that a good place to winter bees in this State?

2. What does a text-book cost? Is that the right name for it? WASHINGTON.

ANSWERS.—1. Such a house so constructed that the bees can fly freely whenever the day is warm enough, will very likely give good results in the State of Washington. My judgment in the case, however, is not worth nearly so much as that of some one who has had personal experience somewhere near you.

2. On page 815 of this journal you will find prices given of such text-books on bee-keeping, as "Bee-Keeper's Guide," "Langstroth on the Honey-Bee," "A B C of Bee-Culture," and others. By all means, secure one or more of them.

Large Hive for Extracted Honey.

Can a hive 8 feet square, for one or more colonies of bees, be made profitable for extracting honey? If so, how should it be built? Any suggestions you may make will be greatly appreciated. IOWA.

ANSWER.—I never heard of such a hive, and I doubt the advisability of building a hive equaling in capacity thirty or more ordinary hives. The only suggestion I have to offer is, "Better not try it."

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

PREVENTION OF SWARMING.

C. P. Dadant handles the prevention of swarming in a masterly manner. If there is a spot where I might rub in a little it is this. Mere *space alone* counts very little as a repressive. It must be *comb space*, and not only that, but comb-space, abundant comb-space, convenient to the center of the brood-nest. Even this, unless they have had it for a good, long while, may not suffice.

I think that perfect wintering the winter before helps on repressive measures greatly. That is, colonies which have come up rapidly from mere remnants swarm much worse than those which have been strong all the while. Page 665.

GOOD QUEENS AND BETTER ONES.

And Yon Yonson, getting one too many systems into his head (if not two too many) thinks to rear queens the size of horses by rearing them in the barn—whence he could ride them on the Gallup down the Alley. His conclusion that all good queens are good, but better ones may be a little better, is an unanswerable conclusion. On that basis our warring breeders ought to be able to make peace. Page 690.

THIS DO, AND THY BEES SHALL LIVE.

First, plenty of good food; second, plenty of bees; third, good shelter. Yes, sir, Mr. Dadant, this do and thy bees shall live. Page 679.

MOVING BEES.

On page 685, I think Wm. M. Whitney's experience in moving bees worth remembering, the outcome being so different from what one would expect. No precaution at all, and yet everything came out all right—no going back, no quarreling. He doesn't say, in regard to one of the moving troubles, whether he looked right sharp or not to see. Sometimes part of the hives get a great deal more than their share of the bees, with other hives correspondingly depleted. My guess is that it was being shut up quite awhile, under circumstances tending to make them kind o' mad, that helped them to forget so well. It's quite a distance, 130 rods; so they were bundled off quite a journey as captives. It might have been different had it been 130 feet instead of

130 rods; and especially it might have been different had they been working strongly right straight along on some source of supply.

CLEARING UP HONEY-DAUBED SECTONS.

Perhaps we are most of us too fond of killing two birds with one stone. Might kill ten singly while getting the two in line. As to the plan on page 685 to clean up daubed sections, and incidentally feed in the open a needy colony, I'll guess the latter bird will get away. Should have a little more hope if the whole hive of sections could be set over the needy colony for a few minutes, then carry all away and treat as described. I think a strange body of bees on plundering bent at times show *some* disposition to protect their plunder. Defending an entrance is largely the work of a particular and small number of bees, I believe; and I opine that these cannot readily be made to leave home and do service elsewhere. A beginner will say to me; Why not leave the sections on the needy colony when you've got them there once? To make bees clean up comb placed over them, and carry down the honey, is one of the provoking things of apiculture—more frequently failure than success.

CALL "SHOOK SWARMS" SIMPLY "SHOOKS."

As for the bad grammar of the term "shook swarm," it helps some to leave the word "swarm" off, and say simply a shook, or a lot of shooks. But I hear some of the boys saying, That suggestion isn't worth "shucks"—grammar may be better, but the sound of the thing is worse. Page 691.

RED-TAPE AND RULES.

How wonderful is red-tape! A national association and a government department are engaged in the same good work, yet the latter must not directly recognize or help the former. Rules. Very true that rules are oft necessary things; but may we not have a rule or two too many sometimes? When rules forbid that which is desirable, and we see undesirable things getting done in spite of all rules, we grumble. Wonder what sort of red-tape will be woven for use in the millennium! Page 693.

EXCHANGING EXTRA-PROLIFIC QUEENS.

The experiment of Dr. Hamlin and Dr. Gallup, exchanging extra-prolific queens, although somewhat costly, was a valuable experiment. Of eight such queens sent a long journey for test purposes all proved unprolific afterwards. Still, I guess that a week or two of just the right preparation will enable such a queen to go without much damage. Page 695.

QUEENS TO SUIT HIVE-CAPACITY.

"If bees will rear a queen to suit the capacity of the hive where will the limit be found?" I echo this parting shot of E. F. Atwater, pages 696; but it is not (not on my part) with any desire to fling a hostile argument. I should not wonder if there was *something* in the alleged correspondence of queen and brood-chamber; but whether that something is a large something or a small one, I wonder and doubt. Willing it should be either way. Also willing to find out that any good little queen can be boomed to the point of seeming a superior and larger breed.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

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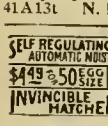

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FROM MANY FIELDS

It is Helpful to Him.

The American Bee Journal has been very helpful to me, as I am yet a novice in bee-keeping. I prize it very highly for its instruction in bee-keeping, and also for its high moral and religious tone when occasion offers for such influence. STEPHEN DAVENPORT.

Albany Co., N. Y., Dec. 1.

But Little Honey Gathered.

The bees gathered some nectar about three weeks in July, and that is all they gathered the past summer, not one section of dark honey this year. Nearly all the bees will have to be fed this winter, or starve, and perhaps both. J. V. B. HERRICK.

Hennepin Co., Minn., Dec. 1.

Short Season in Manitoba.

The season is so short here that colonies have to be very strong early in the spring in order to get lots of honey.

I have a very poor place to winter my bees. I tried four different ways of wintering in the cellar last winter. I had four even-sized colonies. One died in January, and another was very weak in the spring, and dwindled to nothing. The other two wintered in perfect order, and were strong in bees. I got 82 pounds of comb honey from one colony, the other I kept for increase, and I got 6 colonies, making me 8 to winter this year.

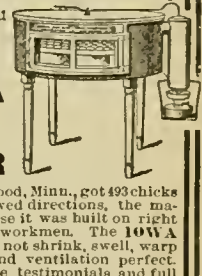
Manitoba, Canada, Dec. 4. A. GILBERT.

Wild Swarms—Ginseng.

On page 762, "Utah" says he has had trouble with queens this summer. The bees have acted very queerly around here. Some colonies are queenless, and some have a good many drones at this time (Nov. 30), but still have good queens. I put my bees into winter quarters last night.

Last fall I got a swarm from the woods, and asked you about their stores. You said they were short of stores. Right, as usual.

Counting Chicks Before Hatching Is not safe unless you have an



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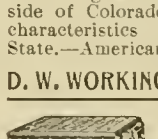
I still have several hundred copies of the souvenir with the above title. The bee-papers and a good many people without visible axes to grind have said it is a valuable and attractive thing. If you should like to have a copy, send me a silver dime or 5 two-cent stamps, and I will mail you a copy.

"BEES IN COLORADO" is the title of a 48-page and cover pamphlet gotten up to boom the Denver convention. Its author is D. W. Working, the alert secretary of the Colorado State Bee-Keepers' Association. It is beautifully illustrated, and printed on enameled paper. It is a credit to Mr. Working, and will be a great help in acquainting those outside of Colorado with the bee and honey characteristics and opportunites of that State.—American Bee Journal.

D. W. WORKING, Box 432, Denver, Colo.



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It means that here is a remedy that makes you feel certain of the lives of your dear ones in cases of accident or sudden sickness. It means many dollars saved to you that would otherwise go to the doctor or veterinary. In all cases of cholera morbus, diarrhoea, flux, rheumatism, cuts, cramps, strains, burns, mumps, sore throat, diphtheria, etc., it is a God-send.

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Red Lake, Minn., June 5, 1901.

One time last summer I got very sick with cholera and thought sure we would have to send for the doctor, but after taking 3 doses of Watkins' Vegetable Anodyne Liniment I felt as well as ever. Since then I use it every day and and find it the best family medicine in the market to-day; it is worth its weight in gold. JOSEPH DUCHARME.

Thousands of good people have written in the same vein.

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100 lbs. white sweet-scented clover,	$10	100 lbs. White Dutch,	$20
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But they hung on until I put them out, then gave them two combs of honey from a dead colony; the queen is the best one I ever had. I got 90 sections from the young colony; then I split the old one into three parts, leaving one with four frames; one of the two-frame ones built up to 70 pounds; none of my hives weigh less than 45 pounds. This fall I am trying three more wild swarms, hived on dry comb. October 16 I fed syrup.

I see one correspondent advises putting an 8x10 glass in the honey-board. It is very good for warm weather, but as soon as it gets cold it draws moisture. I have a glass hive, but change boards in cold weather.

How long does it take ginseng to mature from seed? F. DURANT.

Winnebago Co., Wis.

[Will some one who knows please answer the ginseng question?—EDITOR.]

Worst Season in 30 Years.

I began the season with 68 colonies. I got two pounds of honey, and decreased to 60 colonies, with prospect of a good many more. This certainly has been the worst season for 30 years. R. R. STOKESBERRY.

Vermilion Co., Ind., Nov. 27.

Sweet Clover for Hay.

I put my bees into the cellar Nov. 26, 150 colonies in good shape. They had a good flight Nov. 21.

The bees worked on sweet clover from July 1 to Nov. 12. What do you want of a plant that will last longer than that? Sweet clover makes good hay in this locality.

Sauk Co., Wis., Dec. 1. H. H. PORTER.

A Good Foul Brood Law.

I am glad to say that the State of California has now a good foul brood law which is enforced to the letter, and I hope it will tend to free us in time to come from the most dreaded disease—foul brood; and that every State in the Union will do likewise, to banish for good this fatal calamity.

We have had this month about 1¼ inches of rain as a beginning, and prospects are good for more. GUSTAV VOSS.

Riverside Co., Calif., Nov. 29.

Feeding Bees for Winter Stores.

Since arriving home from the Denver Convention I have had a pretty hard problem to face, that of feeding my bees for winter stores. In place of their gathering a surplus they were dragging out their brood to keep from starving. Some colonies had as much as a good quart of brood dragged out, and scarely any open honey in the hive.

Cold and rain prevented their getting out after anything. All supers with a small amount of honey in them were removed to the honey-house, following up with a pail of sugar syrup, dashing a dipper full over the tops of the frames, repeating this in about 20 minutes. This was sufficient to tide them over for two days, when we had warm sunshine again.

An examination was made of each colony, and only a very small percent of them were found with sufficient stores, and the next problem was, How shall I go about it to feed them?

Several ways were tried, but I found them too slow for 97 colonies needing enough stores for winter.

Despite the advices from the veterans, I decided to try them "wholesale," and use the watering trough, which is 12x12 inches by 14 feet long, with 6-inch fencing nailed together flatwise, with a ⅜-inch cleat between them for a float. Putting it in a warm, sheltered place I next arranged two 14-foot boards one above the other, and above the trough, with one end elevated about 16 inches. Sticks of stovewood were placed between them (the boards) to give bee-space. Two 5-gallon kegs with faucets in completed the feeder, except

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M. H. HUNT & SON, Bell Branch, Mich.

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that lath were nailed on the boards 4 inches from each edge, and a 4-inch strip of sacking was laid down the center part of the boards to form more drinking-room.

The feed at first was one-third sugar, but later they were reversed, with a tablespoon of tartaric acid for 20 pounds of sugar. The feed was placed in the kegs, and a stream of syrup sufficient to allow it to run off some at the opposite end into the trough. I have fed them 1500 pounds of sugar made into syrup, and a few colonies will need more, which I am feeding individually.

I *think* they have sufficient to winter on, but I want to *know* it, so I can better enjoy the winter. A "whole lot is just about right," is good advice.

As a whole, I have no regrets having fed them as I did. The main thing is to give them plenty of drinking space, that they may not crowd one another into the feed. I found when mine were working at their best, the two 14-foot boards and the trough with fencing float was hardly sufficient space.

Syrup made 2 parts of sugar to one of water, would be carried away at the rate of about 125 pounds of sugar to the hour. I used the wash-boiler on the gasoline stove to make the syrup, and fed it as warm as they would take it.

Before I commenced feeding all were examined and marked on the front of the hive, its condition as to stores and other conditions. Two drone-layers and one laying-worker colony were found, and their honey distributed to equalize with, so far as they went.

Before feeding the last 500 pounds they were again examined, and equalized by the exchange of frames. I have some 1500 partly filled sections which I will give them as soon as I take them from the cellar.

The weather during October was warm and pleasant, with but few exceptions. The bees have worked some on sweet and white clover, and dandelions, which are still blooming quite freely.

F. W. HALL.

Sioux Co., Iowa, Oct. 25.

Bees and Pear-Blight.

The editor of Gleanings in Bee-Culture comments quite fully upon the able article of Prof. Cook, published in this journal on page 664, quoting freely therefrom, assenting in general to the views expressed by the Professor. The following extract from the editorial, however, takes a little different view, and is worthy of careful perusal:

The question naturally arises, then, "If the local bee-keepers of Hanford and other infected districts can not by any procedure abate the nuisance, what is there to be done?" If the pear-blight would come anyhow without the bees, if it would spread from tree to tree by the agency of *other* insects, although not nearly so numerous, what possible good can come from persecuting the bee-keeper? Even if it be admitted that the bees themselves are almost the sole means for the transmission of the disease, then there is the stubborn fact that there are many colonies of bees in the rocks and caves that are what would be called in law *feræ naturæ*, or animals out of the jurisdiction of man, and, therefore, man can not be held responsible for the depredations that they may commit.

Prof. Cook, in the first quotation above given, suggests or points out a reason why young nursery stock that has never bloomed should be blighted. The virus found in the semi-liquid resinous secretion, he says, would be visited by the bees, and, therefore, the bees would help spread the disease. Right here, it seems to me, we lack proof. I carefully questioned the bee-keepers and pearmen in the vicinity; and so far as I can remember no one was prepared to say that bees were ever found on these young shoots—that

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These are clear flint glass jars holding just one pound, and the shape of a keystone. They are 7⅛ inches high, and very pretty when filled with honey. The corks can be sunk a trifle below the top, and then fill in with beeswax, sealingwax or paraffin. We can furnish them in single gross lots, with corks, f.o.b. Chicago, at $3.50; two gross, $3.25 per gross; or five or more gross, at $3.00 a gross. These are the cheapest glass one-pound jars we know anything about. We have only about 20 gross of them left. So speak quick if you want them. Address,

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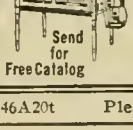

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The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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The Cyphers Incubator Company, of Buffalo, N. Y., suffered a loss by fire Saturday night, Dec. 6. While this fire caused some loss, it was not specially severe, nor will it cause any interruption in filling their orders promptly. The fire destroyed one warehouse *only* (a frame structure); it did not touch to any extent whatever the main factory or offices, nor the main stock-room, which is located inside of a large brick building. A considerable stock of panels for incubators was stored in the warehouse that burned, also a quantity of clover products and materials for mixing poultry foods, all of which were totally destroyed, but in the main factory building, which comprises 60,000 square feet of space, they still have ample materials for filling orders promptly, besides plenty of lumber in their yards, none of which was reached by the fire. The frame warehouse and contents were insured, hence the net loss will not be severe. We are glad to know that the Cyphers Company will not miss filling a single order promptly and satisfactorily on account of this fire loss. Send to them for their free catalog, and please mention having seen their advertisement in the American Bee Journal.

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GUS. DITTMER, Augusta, Wis.

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they never saw them; in fact, except when the trees were in bloom. It was admitted, however, that ants and other insects would crawl all over them. For that reason I can not think that the bees are proven guilty as charged by Prof. Cook. If it be true that other insects spread the blight on young nursery stock, it only goes to prove Prof. Cook's other statement, that the removal of the bees controlled by man would not abate the nuisance. If bees do not visit the small trees, and such young stock is blighted just as badly as the old trees, it goes to show very clearly that the same agency that scatters the disease on *young* trees (insects, not bees) can and does scatter it on the *old* trees.

Safe and Rapid Increase of Colonies.

Prevention, rather than securing increase, is the thing chiefly desired nowadays, but there probably will never come a time when it will not be desirable to be informed as to the best plans for increase. The following discussion on the subject is given in the Canadian Bee Journal:

"Is there any safe way to increase faster than by natural swarming? If so, what is it?"

Mr. Sibbald—I think the best way is to keep the brood-chamber intact as long as you can keep all the bees in one family; keep them all working together and you get far better results than to let them swarm; and at the same time you can take out one frame of hatching brood, put it in a hive; give them a queen-cell, and you will soon have a colony started there; you can add another one, and so on, and at the end of the season you can equalize them. You can increase almost as much as you like in the season and it costs you nothing scarcely. You have kept your bees all working, and your colony all together, and you have the full force all gathering surplus honey on that one stand while the other one is growing up. The brood we take out in the middle of the season would not be hatched and old enough to be in the field by the end of the season, unless we have a fall flow.

Mr. Frith—When I was burned out with foul brood and lost all my bees, and I was anxious to build up very rapidly, I bought a colony in the spring and I had 12 in the fall, and I did it just upon the same principle as Mr. Sibbald suggests.

Mr. McEvoy—I wish to indorse what Mr. Sibbald said. In selecting this brood I like

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to bring the frame above the queen-excluder. Every bee-keeper knows as well as I do that nine days after the eggs are laid, if you take a frame of brood out and examine it you will find sometimes there are quite a few of the young that are not fed as well as they might be. That can be prevented by selecting a comb out of the brood-chamber that is nearly all full of larvæ that is not capped, and take that to start the nucleus. On and after that Mr. Sibbald and I will go together.

Mr. Sibbald—I would do that, only the two or three days you have that brood up there they will carry up any amount of pollen and store it in the next comb to it.

Mr. McEvoy—That would depend somewhat on the locality.

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Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cents.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Bienen-Kultur, by Thomas G. Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

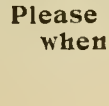
Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00.

Dr. Howard's Book on Foul-Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. Price, 30 cents.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.



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HONEY AND BEESWAX MARKET QUOTATIONS.

CHICAGO, Dec 8.—There is no special change in the honey market, prices remain as last quoted and the volume of sales are not large. The weather is such as usually prevails at this season of the year, and the cold may induce people to buy more freely. Best lots of fancy white comb honey brings 16c per pound; No. 1 to choice, 15c; off grades, 2c to 5c less, and not much demand for them. Extracted, 7@8c for white; amber, 6@7c; Southern, 5½@6c. Beeswax, 30c. R. A. BURNETT & Co.

ALBANY, N. Y., Nov. 22.—Honey market is still in strong position with ready demand for all receipts at good prices. Fancy white comb, 16c; A No. 1, 15c; No. 2 and mixed, 14½@15c; buckwheat, 14@14½c. Extracted, buckwheat scarce at 6½@7½c; light grades more plenty at 6½@7c. Beeswax, 29@30c. H. R. WRIGHT.

BOSTON, Oct. 20.—Our honey market remains firm, with good demand and fair stocks on hand. Honey is not coming forward as fast as usual, and the tendency of prices is steady. We quote our market as follows: Fancy white 1-pound sections in cartons, 16c; No. 1, 15c; No. 2, very light supply, 14c; glass-front sections generally one cent less than this. Extracted, light amber, 8c; amber, 7½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Dec. 6.—We quote fancy white comb honey, per case 24 sections, $3.50; No. 1 white, per case 24 sections, $3.40; No. 2 white and amber, per case of 24 sections, $3.25. Extracted, white, per pound, 7c; amber, 6c. Beeswax, 27@30c.

Our market has changed quotations of comb honey from pound to the case.

C. C. CLEMONS & Co.

CINCINNATI, Dec. 8.—The demand for honey, both extracted and comb, has eased off somewhat the past few weeks, however the prices rule steady, as follows: Extracted, amber, in barrels, 6@7c; white clover, 8@9c. Comb honey, fancy, 16@17c; amber, 11@12c. Beeswax, 29@30c.

THE FRED W. MUTH Co.

NEW YORK, Dec. 8.—Demand for comb honey not quite as brisk, owing, we presume, to the fact that prices have been ruling higher. Supply, however, is moderate, and there is no other stock on the market.

Prices remain unchanged; fancy white, 15c, with exceptionally fancy at 16c; No. 1, 14c; No. 2, 12@13c; buckwheat and amber, 11@13c. Extracted, white, 7½c; light amber, 6½@7c; dark, 5½@6c. Beeswax in fair demand at 28@29c.

HILDRETH & SEGELKEN.

CINCINNATI, Dec. 12.—The comb honey market is a little quiet, almost everybody is filled up. As there is hardly any new supply coming in, there is no change in prices, namely: Fancy water-white, 16c; off grades less. The market for extracted white clover shows a slight advance. Fancy white clover brings 8½@9c; alfalfa water-white, 6½@7½c; but amber, if anything, has weakened. I quote same, in barrels, 5¼@5½c. Beeswax, 27@28c.

C. H. W. WEBER.

SAN FRANCISCO, Nov. 12.—White comb honey, 10½@11 cents; amber, 9@10c; dark, 5@—c. Extracted, white, 6@6½c; light amber, 4¾@5½c; amber, 3½@4c. Beeswax, good to choice, light, 26@27c; strictly fancy light, 29@—.

White is reported scarce; light amber honey in fair supply. The bulk of California produced honey is sold for Eastern shipment in carload lots from producing point at bottom price. Small lots of choice honey that can be used in local trade bring more. Quotations here given are current prices to producer, f.o.b. shipping point, on Eastern basis for extracted and California basis for comb.

Wanted Comb and Extracted Honey!

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Index to Volume XLII.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., DEC. 25, 1902.

FORTY-SECOND YEAR
No. 52.

WEEKLY

APIARY OF E. H. STEWART, OF ONTARIO, CANADA.

THE AMERICAN BEE JOURNAL

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The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Forty Years Among the Bees

By DR. C. C. MILLER.

DR. C. C. MILLER.

The above is the title, and name of the author, of a new bee-book which will be ready some time in January, 1903, as it is now in the hands of the printers. It is a book that every bee-keeper in the world that can read English will want to own and read. It will contain over 300 pages, be bound in handsome cloth, printed on good book-paper, and illustrated with over 100 beautiful original half-tone pictures, taken by Dr. Miller himself. The book will show in detail how Dr. Miller does things with bees.

The first few pages of the new book are devoted to an interesting biographical sketch of Dr. Miller, which finally tells how he happened to get into bee-keeping. Seventeen years ago he wrote a small book, called, "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters.

How to Get a copy of Dr. Miller's "Forty Years Among the Bees."

The price of this new book is $1.00, postpaid; or, if taken with the WEEKLY **American Bee Journal** for one year, BOTH will be sent for $1.75.

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AMERICAN BEE JOURNAL

ESTABLISHT IN 1861 — THE OLDEST BEE-PAPER IN AMERICA

42d YEAR. CHICAGO, ILL., DEC. 25, 1902. No. 52.

Editorial Comments.

A Merry Christmas we wish to all the readers of the American Bee Journal, and many of them ere they shall be called to leave this world.

The Index to Volume XLII appear in this number. We trust it may prove of value to all who have preserved each week's copy as it has come.

By the way, if any subscriber finds he has failed to receive any copy that is due him, we will be glad to send it again if we are asked for it, and if we still have any of them on hand. Better ask at once if any missing copies are wanted.

Forced Swarms—Questions About Them.—There seems quite a general agreement that in at least most localities the anticipation of natural by forced swarms is a boon, but there is not entire agreement as to the minutiæ. Indeed, it is quite possible that there can be no general agreement, because difference of localities, seasons, or conditions make an entire agreement as to the details of management impossible. Among the questions to be settled are the following:

Shall forced swarms be made before or after queen-cells are started? Shall a frame of brood be left with the forced swarm, or shall it be left with neither brood nor honey? If brood is left, how long shall it be left, or shall it be left permanently? What is best to give the forced swarm, drawn combs, frames filled with foundation, large starters, small starters, or what? Is there more or less likelihood of forced than of natural swarms deserting? And that may be only a small part of the questions arising in actual practice, and to which answers will be expected from those who have had experience.

Bottled Honey Growing in Popularity.—Editor Root has the following paragraph in a recent number of Gleanings in Bee-Culture, on the growing subject of putting up and selling honey in bottles:

"If you, my dear reader, happen to live in a locality where there is no bottled honey except that which comes from some packing-house, unknown or of doubtful reputation, just try putting out some neat bottled goods of your own, bearing your own label, and see what a nice trade you will have. Your own good reputation, with a personal explanation from yourself, will make the goods move off like hot-cakes. But you must make one trip around among the consumers, explaining that it is your honey; how you put it up, and that you guarantee it to be absolutely pure."

But we do not advise putting up honey in glass bottles or jars to be sold by the bee-keeper direct to the consumer. Such should only be sold to consumers through the grocery trade. There is many a town or small city where a live, wide-awake bee-keeper could do well if he would keep the grocery trade well supplied with pure honey in glass jars holding ¾ or one pound each. He could first dispose of his own crop of honey, and then afterwards buy honey, so long as he got it from a dealer who would guarantee its purity.

But some one may say, "Honey is too high in price now. I can't afford to buy and sell again." And yet you were the chap that was kicking a while ago, because honey was selling too cheap. Yes, and you wanted to organize a honey exchange so as to boost up the price of honey! Oh, you had your own crop of honey to sell then, did you? Ah, we see.

But when honey, like any thing else, is higher in price in the market, you must ask *more* when you sell it. Of course, some people will object to paying a cent or two more on a pound, but such are very few indeed. A few words of explanation usually satisfies them, if you are a truthful and honest man. If you are any other kind, you hadn't better try to sell honey, or anything else, for that matter.

Amending the National Constitution—Mr. Geo. W. Brodbeck, one of the leading bee-keepers of California, wrote us as follows, Dec. 8:

The American Bee Journal of Dec. 4th is just at hand. I note in the report of the Denver Convention several propositions to amend the Constitution of the National Bee-Keepers' Association. I, too, fully recognize the existing defects, but until the Constitution is amended so as to permit time for full and free discussion, pro and con, in our bee-papers, I desire to enter my protest against any action by vote presentation without due notice. We who reside in the North, South, East and West, and are not so fortunate as to be present at these annual sessions, desire to be heard. I believe in the recognition of the rights of every individual member present or absent, and no other method will ever incite a hearty co-operation of the membership at large. I firmly believe there are great possibilities in store for this organization in its proper and consistent management.

Los Angeles Co., Calif. GEO. W. BRODBECK.

There is considerable in what Mr. Brodbeck says, but it is too late now to help any this time, we fear. Still, the proposed changes are not serious, and if adopted the Association could still go forward and be as successful as it is now. We are willing to trust to the majority in this as well as in other matters affecting the welfare of the Association.

Benefits of Co-Operation.—In discussing this matter in the Bee-Keepers' Review, E. A. Daggitt claims that the farmers produce wealth but fail to get their proper share of it, the lion's share being absorbed by those who distribute the product of the farmer, while he gets only what others are willing he should have. He gives the following striking illustration:

In this part of the New Jersey peach section we have raised and shipped millions of baskets of peaches, yet most of the growers have been left poor. Why is this? Let us see. Baskets have cost from 2½ cts. to 4½ cts. each. When the most peaches were shipped the prices ranged from 3 to 3½ cts. Freight was 9 cts. a basket; cartage 4 cts.; commis-

sion 10 percent. On a 50-cent basket the cost would be from 21 cts. to 21½ cts. per basket, about double what it should have been, leaving to the growers 28½ to 29 cts. per basket—less than cost of production.

The larger part of the peaches have been sold for less than 50 cts. per basket—many away below that price. In some instances a bill of costs has been rendered. We have had returns of 8 cts. per basket, net. When peaches have sold at wholesale for 25 and 30 cts. per basket, I have known them to retail at 10 to 15 cts. per quart. One season when we were getting from about 50 to 75 cts. per basket for the best grade of peaches, a friend told me that he had seen good peaches offered for sale on Staten Island for $3.00 per basket. Another season there was only a moderate crop of peaches here, and the crop was a small one generally throughout the country, yet, when the "run" of the Reeve's favorite variety came, there was a "glut;" and when the "run" of late Crawfords came on there was a worse "glut." So the manipulators said, but, in reality, there was no glut at all. The manipulators of prices were only fixing things to suit themselves, but to the injury of the growers.

I then saw what was the trouble, the great trouble, with farming. If there is manipulation of prices with one product, then there must be the same with all products, if it is worth while. It is just the same with honey, without a question.

The Weekly Budget.

Mr. Morley Pettit, of Ontario, Canada, was one of the very prominent young men at the recent Chicago-Northwestern convention. His impression of that meeting is expressed as follows in a letter we received from him Dec. 12:

Dear Mr. York:—The convention fully repaid me for coming, although it *was* 400 miles. Not only were the discussions pleasant and profitable, but the meeting with men whom I have known for years through bee-literature added materially to my enjoyment of the convention. It is so much better to know flesh-and-blood men than paper men. While you are shaking hands your little differences of opinion fade away into the vague regions of "locality."

Fraternally yours, Morley Pettit.

To Foreign Subscribers.—Occasionally it seems necessary for us to say, for the information of foreign bee-keepers, that none of our special offers found anywhere apply to them. They apply only where domestic postage rates are in force, Neither do we export queen-bees. But we mail bee-books at regular rates where the book postage is the same as in the United States. Whenever we get a foreign remittance on a combination offer of the Bee Journal and something else, we simply apply it all on the subscription to the Bee Journal, as in that way the subscriber gets full value for his money.

Please remember, foreign readers, that our special clubbing or combination offers do not apply to you. They could not, as all know that there is extra postage to those countries, so we intend our special offers for those countries only to which our pound postage rate applies.

Dr. Miller of All States.—We have received this from Dr. C. C. Miller, of Marengo, McHenry Co., *Illinois*.

Mr. Editor:—On page 788, I see my name mentioned among those present from other States at the Chicago convention. This is to give you notice that I still reside in McHenry county, and that said county has not yet been moved out of the State of Illinois—indeed, it has not yet been jacked up on wheels for that purpose.

C. C. Miller.

When first reading the above, we wondered how we were going to get out of the dilemma we had gotten ourselves and also the good Doctor into. An easy exit immediately suggested itself to us. Doesn't Dr. Miller belong to *all* the States? Of course he does. He lives (apiculturally and "bee-literaturally") all over the United States as well as in the rest of the world. We know he eats and sleeps in Illinois, but that is a very small part of his real life.

Now, haven't *we* gotten out of the difficulty fairly well? Of course *Dr. Miller* didn't have to get out of any scrape. Physically he's still in McHenry County, Illinois. In every other way he's everywhere where bee-keeping and bee-keepers exist. And when his new book—"Forty Years Among the Bees"—is out, he will very soon thereafter be more scattered than ever, for every(bee)body will want to read about him and his life work.

Later.—A day or two after writing the foregoing we received this from Mr. Abbott.

Dear Mr. York:—I notice your editorial about those present at the Northwestern from other States, among them Dr. Miller is named. What county does he hail from, anyway? I guess you are correct, he is big enough to belong to the United States, and good enough for any State.

Fraternally yours, E. T. Abbott.

It will be noticed this agrees with the explanation we had already written. So it might have been a bigger mistake.

Texas Honey.—Louis H. Scholl says in the Progressive Bee-Keeper, that southwest Texas alone will use, during the coming season, not less than 20 car-loads of tin cans to be filled with honey for strictly family use.

Mr. E. J. Root, 90 West Broadway, New York, N. Y., is a correspondent of the London Grocer and other journals. Well, what of it? Who cares if he is? There's this of it: He is a brother to W. P. Root, the "Stenog" of Gleanings in Bee-Culture, has a warm side toward bee-keepers, and is in a position to get before a large class of readers, whom the bee-papers never reach, information about honey that may do us a whole lot of good. Witness the following clipping from the London Grocer:

"Honey is a valuable and wholesome article of food, which is not so much seen on our breakfast tables—and on our readers' counters—as it ought to be; but it will probably be taken up commercially one of these days. A Colonial Office report on Malta, mentions that honey is one of the products of that British island. In the northwest portion, overlying the upper coralline limestone, are uncultivated lands suitable for the growth of the wild thyme. A firm at Birchircara cultivate the bee on a rational and commercial basis, and the honey produced is of the first quality. The output could be increased were it not for the destruction of the thyme, which is, when dry, collected for fuel."

Honey as a Health-Food is the name of a 16-page leaflet (3½x6 inches) which is designed to help increase the demand and sale of honey. The first part is devoted to a consideration of "Honey as Food," written by Dr. C. C. Miller. The last part contains "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by every one who has honey for sale. It is almost certain to make good customers for honey. We know, for we are using it ourselves.

Prices, prepaid—Sample for 2 cts.; 10 for 10 cts.; 25 for 20 cts.; 50 for 35 cts.; 100 for 65 cts.; 250 for $1.50; 500 for $2.75; 1000 for $5.00. If you wish your business card printed at the bottom of the front page, add 25 cts. to your order.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get them subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Convention Proceedings.

THE DENVER CONVENTION.

Report of the Proceedings of the 33d Annual Convention of the National Bee-Keepers' Association, held in Denver, Col., on Wednesday, Thursday and Friday, Sept. 3, 4 and 5, 1902.

(Continued from page 807.)

REPORT ON THE PEAR-BLIGHT QUESTION.

M. A. Gill, on behalf of the committee, presented the report on the pear-blight question, as follows:

WHEREAS, The National Bee-Keepers' Association assembled in Denver, Sept. 5, 1902; and

WHEREAS, The Central California Bee-Keepers' Association has submitted for our consideration a preamble and resolution embodying the "pear-blight-bee" question, asking for advice and protection, providing there is further trouble. Therefore, be it

Resolved, That we grant unto them the request embodied in their resolution heretofore submitted.

M. A. GILL,
F. E. BROWN,
FRANK BENTON. } *Com.*

R. H. Rhodes moved, and it was seconded by J. P. Ivy, that the report be accepted. The chairman put the motion, which, on a vote having been taken, was declared carried.

F. E. Brown—In accepting the report of the committee that does not adopt the resolution submitted by the committee, does it?

Vice-Pres. Harris—No, sir. What is your pleasure with regard to adopting the report of the committee?

Mr. Brown—I move that we adopt the report of the committee.

J. B. Adams—I second the motion.

The chairman put the motion, which, on a vote having been taken, was declared carried.

REMOVING SUPERS OF HONEY.

QUES.—"Will Mr. Coggshall show or tell us how to kick off supers?"

Mr. Coggshall—Always get the bees subdued before you do any kicking.

Dr. Mason—How do you subdue them?

Mr. Coggshall—With smoke. The jar is no more when you kick it off than when you pry it off with a chisel.

Dr. Mason—Do you kick it off with your toe or heel?

Mr. Coggshall—I do it with my heel, usually. If it is necessary, use your toe.

CONSIGNING HONEY TO COMMISSION MERCHANTS.

QUES.—"Is it advisable for the bee-keeper to consign his honey to the comission merchant?"

Mr. Hershiser—On that question I desire to read a little correspondence, and I will be just as brief as possible. [Mr. Hershiser read correspondence passing between a shipper and commission merchants by the name of Batterson & Co.]

Batterson, the commission merchant, in this case knew just when the honey referred to in this correspondence would arrive; it was shipped immediately after the shipper received instructions. He offered to sell his honey so that it would net 4½ cents per pound; the shipper afterwards let him down to 4 cents net. He promised the shipper he would not sell it for less than his limit, unless he got the advice and consent of the shipper. It was necessary for the shipper afterwards to place the matter in the hands of his attorney, I being his attorney. I took the honey out of the hands of the commission merchant, and ordered that no more of it be sold. Then I asked for a statement of the honey that had been sold, and he rendered such statement showing that out of 204 cases there were 203 to be delivered to me, he having sold one case.

It was not very long after that till I found out, as a matter of fact, that a ton of it had been placed in the hands of another commission merchant in Buffalo, and that part of it had been sent to Cleveland to some other alleged good commission men who knew all about honey! These men had said it was adulterated; and when I got his statement it amounted to this, among other things: The freight came to $305.25; then a matter of car service, $5; cartage, $5.40; storage, 12.24; insurance, $5; and interest, $4.25. In the first instance the cartage was about $10.40, but I showed him that the prevailing price for cartage was only about half that, so he cut that about in two. In the first instance the storage was $18.24, and I cut that down to $12.24; I could get no reduction on the item of insurance; and I got 80 cents off the item of interest, $4.25, on the ground that part of the honey he had sold to another man, and there was a little rebate on that amounting to 80 cents. He suggested that was a very small matter, and I told him it was just as small for him to take it as it was for me to take it, and he suggested we cut it in two. With reference to the item of car service, I contended it was owing to his negligence the car was not unloaded, and by inquiry at the freight-office I found he had increased that by one dollar, one dollar of the car service having been charged up on a carload of potatoes.

In order to get possession of this honey, it was either necessary to settle with him on these expense charges he had made, or else replevin the honey. To replevin it would have meant three bonds, and would require, besides that, bonds for security for cost on the ground that the plaintiff lived outside of the State. So it would have cost, perhaps, $150 or $200 in sheriff's fees, and fees for the bonding companies, and so on, before he could have got in possession of this honey, so it was necessary for me to settle and let him bleed this man out of $60 in addition to his attorney's fees.

After this I demanded that he make this amount good on this car-lot of honey on the price he had agreed to net him, and if he didn't do it that I, as an officer of this Association, would deem it my duty to lay the matter before them, which I am now doing. So if any of you want to ship honey to any like Batterson, and you lose your honey, don't blame the Association or anybody that has given you this information. I don't desire any practice of this kind; I am an attorney, and anxious to earn fees, but I don't want to earn fees of this kind; I would rather earn them in some manner that is not bleeding people out of their money.

I think it would be a good thing for this Association to take up matters of this kind so that commission merchants in various parts of the country will realize that it does not make any difference whether the shipper resides within three or three thousand miles of this place; that he has no more protection in cheating a man out of his money, or honey, if he lives three thousand miles away than he has if he lives three miles away.

I simply give you these facts, and you may do with them as you please.

Vice-Pres. Harris—I will take up the question of the committee on the proper marketing of honey, to look after the common interests of the whole country. I will name on that committee, Messrs. F. Rauchfuss, of Colorado; F. E. Brown, of California; Dr. A. B. Mason, of Ohio; W. Z. Hutchinson, of Michigan; and O. L. Hershiser, of New York.

Vice-Pres. Harris then left the chair, and Pres. Hutchinson resumed it.

EFFECT OF COMB ON THE COLOR OF EXTRACTED HONEY.

QUES.—"Does the color of the comb, from which honey is extracted, have any effect on the color of honey?"

Dr. Miller—I should like to hear from any who have had personal experience that would help to decide positively that question one way or the other. I may say in general terms that it has been claimed that the old combs did have that effect upon the color of the honey, and some, who say they have produced extra-white honey, say they have done it by taking it from virgin combs. Mrs. Harrison, for one, claims that there is some reason for believing that comb of a very dark color should have an effect upon the honey for this reason: I think nearly all of you know that when you have taken some very old, black comb that has been filled with water, no matter how, if that has stood for some time, and you take it and shake out the water, it looks almost as black as ink. I think I can appeal to the majority of you as to that. If water will take the black color out of the comb, then the water which is in honey one might naturally suppose would also take the color out. I think the argument is plenty strong in that direction, and yet if any one has had positive proof about it, it will be worth more than theory.

Mr. Dadant—On this question there are two points to be considered, if you wish to know whether it has a great or small effect on honey. There is the possibility that the color of the comb has a very slight effect on the color of honey, but if any one says that the color of the comb has a great effect on the color of honey, I will dissent altogether. We used to save all our old comb, all the broken combs, to put into the frame; we used to import in small boxes combs 6x4; we thought so much of the comb that we saved it and put them one above the other, 16 pieces for one frame; we used those for extracting, and we have produced as white honey as anybody else. There might be a very slight difference in the shade, we do not know whether that is due to the comb or due to other causes, but we do know we can produce a very white honey in very dark combs. There is one color which gets into the comb that I think has more influence than the dark color, and that is the yellow color of the blossoms. Sometimes the combs are turned yellow in a very few days; I believe that color can get into the honey, but usually the honey we harvest at that time is of the same shade, so that it can have no influence over it.

J. A. Huebner—In regard to this question of honey-coloring, I want to say that I had an experience of that kind last year. Last fall I extracted some honey out of dark comb, and it was almost water-white, and then two weeks later these combs were filled up again, and I was absent from home, and this honey was not extracted until the next May, 1902, and that honey which stood in the comb over winter got darker, which I have every reason to believe was color taken from the dark comb.

W. P. Collins—That honey which stood over might have been darker, and even the white honey might get dark.

Mr. Dadant—There is one thing I might state. If the dark comb is likely to give any color I think it will give it the first time. We have extracting-combs from which we have extracted every year for 30 years, and they are better to-day because they are heavier.

Dr. Mason—Dark combs?

Mr. Dadant—Certainly. Before foundation was invented we used to save the pieces of our combs and put them in the supers. Those dark combs, after you extract from them three or four times, do you hold they still color the honey? Suppose there is color the first time, it is not likely that the color will be dissolved in the first extracting, and that for 15 years they will be as good as new combs? It looks to me unreasonable to think we can make old combs white by having them color the honey. There may be a very slight difference, but you must be sure that that difference is not caused by some other things, such as you mentioned here when you get two bottles of honey side by side and say they are two grades of honey. Some of you, I understand, say when there is no water in the soil the honey is darker, although it is from the same blossom. Don't charge the dark comb with the coloring of the honey unless you are positive that that has done it. I believe you can only say it has done it in perhaps the first instance, that is, the time when it has just been used for brood, and afterwards used for honey, and then this color is likely to become loosened and absorbed by the honey.

Mr. Gill—In my judgment I am satisfied that the honey Mr. Huebner speaks of was darker when it was gathered than the other honey was.

Dr. Mason—I can understand this whole question. It all depends upon the locality. You have had that before you to-day. Now, then, you may argue all you have a mind to. You can see those two bottles now, the honey in one bottle is light honey, and that same honey was put in the same combs ten days before I came here and left till I came away, and that is the same honey, and those combs have been used for extracting for the last four years. It all depends upon locality, not on the combs.

J. A. Green—I would like to ask Dr. Mason how he is sure that is exactly the same honey in those two bottles?

Dr. Mason—I know in this way, because I took some of this honey and put into the dark combs myself just to test it, because this question has beeen asked so many times. That is the same honey, precisely: it was in there seven or eight days perhaps, and I took it out just for the purpose of bringing it here.

Mr. Green—Did you give it back to the bees after that?

Dr. Mason—No, sir; the bees had nothing to do with it since I got it, of course not.

Mr. Green—I ask that because it is so easy for the bee-keeper to be mistaken in that respect. The first honey that I extracted this year was very light in color, about a white, and a few days later, and from the same source, and from the same comb, much darker. Like Mr. Dadant, I have old combs.

Dr. Mason—The question is, Will the color of the comb make any difference in the color of the honey?

Mr. Green—I have a large number of old combs, and I agree with Mr. Dadant that for the first extracting there will be a slight tinge given to the honey, but after that there certainly can not be, or at least very little. I have these old combs, thousands of them, some of them 25 years in use; to all appearances they are just as black as ever, and I get just as light honey from those combs as from new combs.

J. B. Adams—One year I had a good chance to test that. I had white combs. I had read in the journals considerable about the combs coloring honey, but I didn't want the bees to be idle, so I used black combs, and I got just as white honey from those black combs as can be produced anywhere. It didn't make a particle of difference; there was no more shade to the honey than there was to any water-white honey.

R. D. Williams—I use in my upper stories half-drawn combs, and I have full sheets of foundation; the full sheets of foundation are white, while the others are very often very black, and I notice there is no difference at all in the honey.

Mr. Dadant—I was called upon to give an opinion on this subject, and I think it would be well for me to add that in regard to the color of honey we must never be too sure on that point. We have had honey from the same blossoms in three or four different yards, and there was so much difference in color that while we could sell the honey from one yard we could not from the other; the difference in shade was quite perceptible, so that the person buying would not accept the honey from one yard in place of that from another, and yet the blossoms were the same. What caused it, I am unable to tell. I believe if you can at any time get very white honey from very dark comb, that will settle the question. I, perhaps, have seen that, but I have not paid any particular attention to it.

W. L. Hawley—For the last eight years there is one thing that I have borne in mind. I have noticed one particular thing: Take a frame and put it into the super, leave that till the last, and throw that out while there is a light flow of white honey, and you will see a difference; but the next time you go around and perform the same operation you will see no difference whatever; from that time on, as long as you use those combs for extracting, there is no difference whatever between the old comb and the white comb; but the first time you remove it out from below, or use it for extracting, is where the difference comes, and that is the only time you can see any difference in the use of the comb.

Dr. Mason—This thing probably depends upon locality, for the gentleman is absolutely wrong so far as my locality is concerned. I tell you, the comb that colored this honey has been used for extracting purposes for five years, and has been extracted from a good many times, you can not be right. Locality makes a difference.

Mr. Green—Was there no brood reared in that comb during those five years?

Dr. Mason—No, sir.

Mr. Brown—Speaking about locality and color of honey, in receiving honey I received it from central California and different locations, and on the south is Tulare Lake; it is a shallow body of water, and the ground being sandy the water runs under it, and alfalfa is grown upon its borders, the roots run down directly into the water; the honey that is produced in that locality is darker; but a little further away where it is dryer the honey is whiter; when you come up to where it is very dry, and no moisture, our honey is white; and when you show me white alfalfa honey I will tell you the condition of the ground on which it is grown, every time; but whether that holds good with reference to other honey, I can't say.

(Continued next week.)

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

Contributed Articles.

THE HIVE PROBLEM.

What Size is Best, Eight or Ten Frame?

BY R. C. AIKIN.

I KNOW this is an old and worn subject, but I do not consider it settled, by any means. This question, like very many others pertaining to the honey industry, is not thoroughly understood; we are constantly learning by experience and in other ways.

I will not say that any particular size of hive is what we need, but I want to tell some things I have found in my experience, and give the reader my conclusions. And, beginning right now, when the bees are starting into winter, let us trace them along through the year, and, as an illustration consider a colony that has been on 6 brood-combs through the summer. If run for comb honey, the probabilities are that there will be some pretty solid packing of the brood-combs with honey, but whether they are well filled or not depends on several conditions. Notice that I say it depends *on conditions*, and in discussing this question I will do it from the standpoint of the apiarist producing conditions, or meeting them so as to modify the effects following.

A colony on 6 combs through the summer, and for comb honey, if they had the 6 combs well filled with brood when the flow began, and if the flow came on abruptly and the weather hot or favorable to super-work, the nectar being plentiful and the colony strong enough to start work in the sections and keep it going. and *if* (note these ifs), the flow suddenly stopped, and if the queen was laying vigorously at the time and kept the combs full of brood and they were so when the flow stopped; and if that flow stopped near the end of summer when the season for breeding was about over, then you have a colony with many young bees and in prime shape for winter, so far as number and age go, but with not stores enough to last till spring, or, if they do last till spring, there will be a poor condition in the spring, if not actual starvation.

But (now don't laugh at the string of buts and ifs), if you will just put right on top of that strong colony at the close of the season, another 6 brood-combs *solid full of honey*, then you have a colony that is in almost ideal condition for winter; and not only for winter, but for building up nicely in the spring. Remember that we are discussing the hive question, and that it is understood that the stock and queen is O. K. A poor queen would be bad in the best hive.

A man ought always to be able to give a reason for the faith that is within him, so I would better tell you why I consider the colony just described as being in prime condition. They have plenty of bees of all ages. It is the commonest kind of knowledge to bee-men, that old bees would not live through the winter and into the spring when and until there is sufficient young bees hatching to take their places. And we all know that one bee, all by itself, can stand but little cold until chilled, and in like manner proportionately a small cluster will chill quicker than a large one; hence, to start the colony into winter with a big force of young, vigorous bees means that they can stand much cold, and when the time comes to begin breeding they can supply the necessary heat. We all know these things.

And we know that those bees will naturally cluster on the original empty combs—they will be practically empty by cold weather because the brood hatched out in meantime, and having the solid combs above them they will consume of it, following *up* as the honey is used, and when spring comes the colony is found in the *top* of the hive. All this time the stores have been closed to the bees—it was easy for them to feed, whether warm or cold.

There, I heard some one say that I must take away that lower hive of empty combs as soon as the bees are out of it, else they would waste a great lot of heat trying to keep it warm, using too much honey to get the heat, wearing out stores and bees both. Well, now, don't you worry one minute about that problem, it is not a fact at all. Don't you see that there is not one hive in 100 that fits the colony in the spring—no, not one in a thousand, except where the apiarist keeps contracting the hive as his colony grows smaller; every colony under normal conditions in cold climates becomes too shall for its hives in the early spring. If it is a fact that the hive is always larger than the colony in spring—and it is a fact—don't you see that all the talk about having a small hive so the bees can keep it warm is foolish?

Notice that I said this sample colony we are speaking of was on 6-frames to start with. They will not warm the entire hive, no colony outside in winter ever keeps its *hive* warmed. They do, however, if the cluster is large, keep themselves and the comb they cover, warm, and in a large measure keep the *upper* part of the hive somewhat warm, particularly right above the cluster. It is common in very cold weather for the colony to warm a spot immediately above the cluster so as to melt the snow from the cover, yet at the same time there is ice (frost) on all sides and below them. It is the melting of this frost and ice, and its precipitation upon the cluster, wetting and chilling them, that kills many a colony in winter. This leads me to say here that every colony should have some means of getting rid of this moisture, and the way to do it is either to have the hive top so warm that it will not condense on it, or have it so arranged that the moisture-laden air can pass off. A good, large cluster will usually take care of the heating question if kept *dry*, but they cannot get rid of the accumulations of frost and ice.

Here in Colorado we have a very dry air, and it is a fact that bees will winter successfully in old boxes or hives that are open both top and bottom, with almost unlimited upward ventilation. The whole secret of it is that the free ventilation carries off the moisture, keeping the bees and combs dry; there is no sour, thin honey and no chilled bees. I have both chaff and single-walled hives, and the bees winter fully as well, if not a little better, in the single-walled ones, and breed up as quickly and early in the spring as in the chaff-hives. I have thought that the chaff-hive colonies were slower, and I know they show more wet, moldy combs.

In late spring and early summer when a colony has become strong enough to fill the brood-chamber and keep it warm, I think possibly the chaff is some help by keeping the colony a little more even, and it is a fact that the packed hive will not be troubled with robber-bees so much as the single-walled. To average the quetsion, I would not give a cent more for chaff hives than for single-walled, for this or a similar climate. Really, I am a little skeptical about the value of the chaff hives anywhere, but don't any one discard them or change because of my skepticism regarding them, in moist climates. Do this, however: Try some big hives, and so manage to have some rousing big colonies in these big hives to winter alongside of your little-hive colonies, and compare the wintering and the results after the next honey-flow; but you may have to contract *during the flow*.

Following out some of this reasoning—and it is based on experience—I conclude that there is no better shape for a hive than about 12 inches square, and 20 to 30 inches high, so far as successful wintering, and building-up after the winter is over. The reason is plain: If they start into winter with many bees they live through with a good start of bees in the spring to mature the first brood; and in wintering they have such a good store of honey above them that they have but to follow it up, and eat as they go, and in the spring they are close to the top, and but a small space about them to warm. It makes no difference if there is a bushel of comb beneath the cluster, or if those combs be full of honey—if full of honey they will be opened, and all honey next to the entrance carried up, and this carrying up of honey encourages breeding. The colony will not, and does not, need to warm what is below them.

But there is some reasons why we do not want a hive of the proportions of 12 inches square, no matter how high, and we will go further into the subject in the next article.

Larimer Co., Colo.

(To be continued.)

Growing Alfalfa for Honey in Illinois.

BY J. E. JOHNSON.

AS I consider honey-plants the foundation of successful bee-keeping, I have been investigating and experimenting on the same for some time. This is the plan I have formed for the coming season in regard to alfalfa:

I have an uncle living near Hutchinson, Kans., who has

raised alfalfa successfully for many years without irrigating. He has found that alfalfa is able to resist drouth better than many other crops, and gets three cuttings nearly every year. I also find that alfalfa is raised in many parts of the West, without irrigation. I have also seen one little patch near here which stands the winter well, but does not seem to flourish as it should. Something seems to be lacking, which is no doubt the bacteria spoken of in Bulletin No. 76 of the Illinois Experiment Station. It is on high land, not very rich.

I have talked with my neighbors, many of whom are cattle-raisers, and all agree that alfalfa would be a fine thing here if we could grow it successfully. All seem anxious to try it, and I have agreed to furnish them 1 to 5 pounds of seed each at 25 cents per pound. I shall also try a patch myself. I shall send to my uncle for infected soil from a successful alfalfa field, and furnish some free to my neighbors so as to enable them to get their soil inoculated with the necessary bacteria. If I manage this plan properly, I see no reason why I should not be able, in time, to find myself surrounded by alfalfa fields, as my neighbors are as eager to try the experiment as I am to have them, as it would be a great advantage to stock-raisers. Any one in Illinois, or the Eastern States, could try this matter for himself with but little expense; but he must persevere if he wishes to succeed, as in other enterprises.

I think the reason alfalfa has not been thoroughly tested in the East is because we can raise many other forage crops successfully. This they cannot do in the far West, and therefore they have persevered because of necessity, and have succeeded. No doubt any field of alfalfa would finally develop this same bacteria, or germs, in time, but by inoculating the soil from other fields we can hasten the matter very much. On my own patch I shall sow infected soil, and use either manure or commercial fertilizer.

Now as to the honey: Alfalfa is a species of clover, and very closely related to sweet clover, and I have always found that sweet clover produces honey in dry weather, if not too cool, but will sometimes fail in extreme wet weather, and that is also more or less the nature of all clovers. Alfalfa has roots that penetrate the earth deeper than any other clover; so, judging from other clovers, it ought to produce as well, or better, than in the West.

From both observation and what I can learn by correspondence, I shall follow these directions: Sow on ground well drained, not on low, wet soil. The soil should be clean from weed-seeds, and be made very rich, but avoid any very strawy manure.

If I do not get a good catch the first year I will sow again on the same ground, and furnish seed for neighbors to sow again, if not successful the first time. Even a small amount of infected soil scattered over the patch would no doubt give good results in time, if the ground is made very rich.

Knox Co., Ill.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

UNITING A LAYING-WORKER COLONY WITH A NUCLEUS.

If I understand correctly Mr. Baldwins' way of getting something out of a laying-worker colony, it is simply to unite it with a nucleus. Yes, that plan seems to be calculated to save whatever of value there is to save. On the other side of the balance-sheet is the risk of getting a queen killed; and, in fact, the existence of her little colony is put at stake also. Six trials and success every time is a good showing, surely. Page 699.

NAMES FOR VARIOUS FORMS OF HONEY.

Perhaps it would be nice if we could adopt Mr. Cary's three terms—"section honey," "comb honey," and "extracted honey"—as per page 700, but practically it is not possible. "Comb honey" has been so long used, and so often used, as an alternate term for section honey that if we start in to use it for something else we shall for years have a large share of our hearers and readers misunderstanding us. The term "chunk honey" has the merit that it goes right to the spot, and it is not to be misunderstood; but confessedly it doesn't sound altogether alluring. Those who produce the article are entitled to have a name that doesn't insult their product, if they can discover and introduce such a name. I believe the terms "bulk comb" and "bulk honey" have been used to some extent. Those terms rather convey the idea of large quantity. What's wanted is a term that will fit a pound or a thousand pounds equally well.

SUCCESS WITH ALFALFA DEPENDS ON SOIL.

"It beats the bugs!" Now it's not soil, nor climate, nor irrigation, nor longitude, that forbids the growing of alfalfa in our Central States, but lack of the proper miscroscopic bug in the soil. And you can introduce him by taking a ton of the soil he inhabits and applying it to an acre—and then all will be lovely. And it's not Mark Twain, nor a newspaper columnist, nor your humble servant, that says this, but the Illinois Experimental Station. Page 709.

EXPERIMENTS WITH PEAR-BLIGHT.

False reports of important experiments—

"What turpitude of art
Can fitly barb the dart—"

which is needed to transfix them? Where shall we be if that sort of thing is tolerated and allowed to spread? According to page 709, the facts about pear-tree screened under netting were that there was *less* blight than outside—reported free from blight—but no more pears than outside—reported full burden of fruit. That is, the netting was some defense against blight, either by keeping off insects or otherwise, but also hinders fertilization enough to about even the thing up, so far as fruit is concerned. I do not understand that it was any paid scientist in State or National employ that made the false reports.

"OUR SISTERS."

"Our Bee-Keeping Sisters," eh? Well, they do say that "right smart" of bee-men are bachelors; and I venture the timid conjecture that now and then one has had a—somebody—offer to be a "sister" to him before. Page 713.

STYLES OF QUEENS—AND QUEEN-REARING.

Abbott L. Swinson's paper, page 716, gets in some live ideas. Two styles of shape in laying queens, the beautifully tapering kind, and the less tapering kind. Former the best, but latter often decidedly the largest. I think lack of taper and extra size in a queen are occasionally symptoms of disease. If so, we should not expect diseased queens to be as good as healthy ones; but, apart from this, quite possibly Mr. S. is on track of an interesting and valuable fact.

To remove a queen-larva which swims in a very abundant supply of food and put in a much younger one, is a promising experiment. I feel interested in his experience, that the resulting queen is extra large, but not valuable. A calf two days old is best on the milk of a cow only two days in milk, rather than on the milk of one a month progressed in milking; and something analogous to this may affect the above experiment just a little.

MOVING BEES ON A HAND-SLED.

Fifty miles travel with a hand-sled is what George Hodges had if we accept the text on page 717. Must send him to try for the North Pole. Text doubtless has some mistake in it—200 rods too long for a field, exeept on the plains.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

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FROM MANY FIELDS

Filling Shiping-Cases.

Having read Mr. Doolittle's article on "Filling Shipping-Cases with Sections," on page 711, and noticing the trouble he had with putting in the sections, as the paper tray was usually torn, I decided to let him know that he could do away with his tin, by a much easier method, which I discovered at the filling of my second shipping-case.

When putting in the second last section, push it against the wall of the case and then the last one next to it, or fill up all around the wall first, and at last in the center. I think Mr. Doolittle will find this method much more convenient and easier, if he will try it.

Clinton Co., Ill. J. D. HOLDENER.

Results of the Past Season.

I have 85 colonies. The honey season for 1902 was poor. I took 3500 pound sections of honey in August. September has always been our best month, but this year we did not get a section after August.

ALFRED E. SMITH.

Posey Co., Ind., Dec. 2.

Young Queens Swarming.

My first swarm came out May 21, and was put in a hive filled with old comb, and the same queen had a swarm out the last of June, and left 15 pounds of honey in sections.

The colony that swarmed May 21 cast a swarm August 3; that was a very large swarm, as large as any I ever saw, and I have kept bees the past 30 years. This young queen must have laid the eggs of this swarm that was hived August 3; and November 22 it was killing off the drones.

All three new colonies have enough to winter on. They are Italian bees and are in movable-comb hives. C. HODGKINS.

Cheshire Co., N. H., Dec. 3.

A Shade-Board for Hives.

On page 728, W. R. Ansell describes, before the Minnesota Bee-Keepers' Convention, a shade-board made of laths and shingles.

Would it be possible to have his method of shading described a little more particularly? It might also be practical to insert the illustrations which Mr. Ansell presented at the convention.

I believe that many bee-keepers are interested in a practical shade-board, and would appreciate it if this shading-board were fully described.

I am just preparing my bees for wintering, and find I have 87 colonies in good condition. Bees have not gathered much honey this year, and I never have seen bees as mean and angry as they were this year. I suppose the changable cold weather was the cause of it.

I like the American Bee Journal very much, and have received a great deal of valuable information from it. R. A. HOLEKAMP.

St. Louis Co., Mo., Dec. 2.

[A picture of Mr. Ansell's shade-board was sent us, but it was not the right kind to make an engraving. If he will send us a good one, with full description, we will be glad to publish all.—EDITOR.]

Keeping Bees on Shares.

From the comical aspect, this little branch of the great apicultural waters does not glide away to a haven of peace and rest; but in reality there is no better or cheaper way for the beginner to get a start in bees, and, in many cases, may be the best way for the apiarist who is overstocked with bees, to manage his surplus colonies. Else out-apiaries

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M. H. HUNT & SON, Bell Branch, Mich.
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must be started, which means a great expense, and calls for almost ceaseless attention.

In letting bees out on shares, one is then free to turn his attention to other matters, and all that is made is clear gain. While one has the whole production of an out-apiary, after the expenses are taken out, the profit is more than apt to fall below what it would have been if the bees had been out on shares of half.

I have kept bees on shares, and have let them out on shares; in fact, I still have 8 colonies that I am keeping in this way, and have over 200 colonies out on shares, scattered about among a number of farmers, and covering a range of 300 miles, in two States. Yet I have never had the slightest misunderstanding with any with whom I had dealings in this respect.

It was necessity which forced me to adopt this method of disposing of my surplus colonies at first; but I am now free to place my bees in out-apiaries and tend them myself, and I do not care to.

In order to avoid any misunderstanding, the whole agreement is put in writing, and provision made for every detail, however trifling. Then, as soon as the honey season is over, a division of stock is usually made, and each party takes his chances of wintering. The old colonies, of course, are not divided, but remain the property of the one who let them out in the spring for a share of what they may produce in swarms and honey.

The man who has nothing to do but attend his out-apiaries can sometimes make these quite profitable; but for one who has other matters to claim a good share of his attention, it may be best to let his surplus colonies out on shares. L. E. KERR.

Saline Co., Ark.

Sweetening Sour Honey.

On page 763 is a query in regard to sweetening sour honey. I have had some experience along that line, and will give my method of treatment. Last fall I had four tons of sour honey, it was thoroughly candied before it commenced to sour, and some of it was fermented so badly that the cans bulged and had to be replaced with others. I procured a galvanized-iron tank capable of holding ten 60-pound cans. I sawed strips of board, placing them on the bottom of the tank. I then filled the tank with water, until ¾ of the can was submerged, built a fire under the tank, and in about 5 hours the first lot was thoroughly heated and ready to be taken out and poured into a large honey-tank. I continued to treat each lot the same until it was all finished, then let it stand 4 or 5 days, and when thoroughly cool skimmed off what foam had risen, and I had as good a grade of honey as before it soured, and I think the color had improved. In heating, the honey had a tendency to run out of the can; to obiate that it will be neeessary to draw a little from each as it melts. An old pop or squirt gun answers for that purpose. Whatever is drawn off must be thoroughly heated before being added to the tank. I had a separate vessel to heat that in. W. W. VARNER.

Ventura Co., Calif.

A Broken Silence—Rearing-Queens.

Exeept for Dr. Gallup's startling discovery, as told on page 408, I should not think of disclosing the remarkable facts which are to follow. But when the "cat is out of the bag" why seek to keep secret longer that which so mightily concerns the rearing of queens full of years?

It was early in my bee-keeping career that I first noticed the umbilical cord (scientific name, pupaskinna castoflica) of the queen-bee. I attached great importance to that attachment, and immediately placed an attachment on my discovery. What I recovered and discovered is as follows:

I reasoned that the royal jelly is so thick and tough that the poor queen, in the short time at her disposal, could only get a little benefit from the food through the umbilical cord—pupaskinna castoflica. If I could substitute a thin and vitalizing fluid I could, per

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On all cash orders received before Jan. 1, 1903, we will allow you a discount of 4 percent; before April 1st, 2 percent. Send us a list of the goods you want and we will quote prices by return mail.

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Manufacturers of Bee-Keepers' Supplies, WATERTOWN, WIS., U. S. A.

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WHITE COMB HONEY WANTED.

Please write us, stating source gathered from, quantity, and price delivered here. It must be put up in no-drip cases. Address,

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HONEY-JARS

1-lb. sq. Standard, with cork, gr.,	$4.75	1-lb. sq. Standard, spring top, gr.,	$5.50
½ " " " "	3 75	1-lb. Keystone, spring top, gross,	5.25
5-oz. " " " "	3.00	1-lb. Octagon, spring top, gross,	5.25
		¾-lb. " " " "	4.75

SEEDS of Honey-Plants

100 lbs. white sweet-scented clover,	$10	100 lbs. White Dutch,	$20
100 lbs. yellow " " "	$15	1 oz. Catnip seed,	10c
100 lbs. Alfalfa clover,	$12	1 oz. Rocky Mountain Bee-plant,	15c
100 lbs. Alsike clover,	$15		

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28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

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haps, work wonders. After much thought I proceeded as follows:

On June 2, 3:05 p.m., I transferred 500 freshly laid eggs from ten of my best queens to cell-cups previously prepared. These 500 cups were given to 100 strong, queenless colonies, five to each. On June 16, 4:07 p.m., at which hour the pupaskinna castoffica is wont to appear, I carefully removed the 500 nymphs (royal) from these cradles and laid them in a row on a downy strip of cotton-batting. After much scrutiny I selected the fairest of the 500 and most carefully set her to one side. With a hypodermic syringe I now took the *lives* of the 499 remaining princesses, carefully drawing each out through the pupaskinna castoffica (umbilical cord—E. Gallup). With considerable skill I now injected through the pupaskinna castoffica of the selected nymph these *lives* at the rate of 15 per minute until I had injected 299. The remaining 200 were reserved for a most delicate operation.

By the aid of the X-rays (yes, I knew all about the X-ray at the time, but refrained from giving my discovery to an incredulous world), I now injected 100 of the remaining lives into each ovary of my princess—destined to be a queen full of years.

It required the utmost skill to insert the syringe under the third abdominal ring and into the delicate ovary. Had it not been for the fact that the subject had been given 299 lives through the pupaskinna castoffica I fear that I should have failed here.

The royal subject was now put into a cell and given to a nucleus in a glass-hive so I could watch what followed. I tell you true, I watched there 55 hours and 10 minutes. The queen first began to show vitality at the end of the 31st hour, by emitting piping that caused the glass of the hive to shiver. At the close of the 32nd hour she came forth, an ordinary queen except for her exceeding activity.

In less than four hours she showed signs of anxiety to take her marriage-flight. My task was not yet done.

I had the day before prepared 1000 lusty drones from the best stock in my yards. The task of dissecting out the male elements of each was a tremendous one, but I succeeded in getting at least three grains of the rich fluid. This fructificative fluid was injected into the retaining-sac of the queen. Here again the excessive vitality of the subject was called upon, not to mention the elasticity of the retaining-sac. The queen laid her first egg three hours and ten minutes from the moment the syringe ceased its work.

Such a queen! A brief mention of what she did in her 10th year will show her worth. I kept her in her 10th year with a colony of her three-year-old workers. I kept no other queens except two in my log-gums and one in a straw skep. This queen laid all the eggs for my 20 regular colonies. She would fill 10 frames in 24 hours. I simply set in empty frames as I took out full ones to give to the other colonies.

Space will not allow me to tell much about the wonderful work of the mammoth 20 colonies. I will merely state that the workers never die of old age. They all meet death through violent causes. (I might digress to

The Sure Hatch's Latest

An automatic, direct acting regulator that surpasses any other improvement ever made in incubators. Send for new Illustrated catalog and free trial offer.

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Prevent Honey Candying

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DRAPER PUBLISHING CO., Chicago, Ills.

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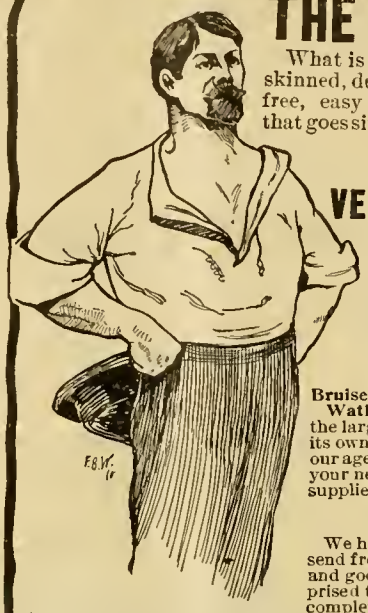
THE GLORY OF HEALTH.



What is more pleasing to the eye than an athletic, clear skinned, deep chested man, ready to toil or play, with the free, easy grace of perfect health? The kind of man that goes singing about his work, because he feels that way.

WATKINS' VEGETABLE ANODYNE LINIMENT

will not make a lazy man muscular, but it will keep the body in such perfect condition that the food you eat, the work you do, will all help to build up a big, strong body. It is the cold in the chest, followed by a troublesome cough that breaks down so many strong bodies. A dose of Watkins' Liniment will stop it all before the harm has been done. **No running for Doctor,** no paying big doctor bills. Use internally or externally for **Colds, Coughs, Colic, Diarrhoea, Dysentery, Cholera Morbus, Indigestion, Cuts, Burns, Bruises,** for **man or beast.**

Watkins' Liniment is good for so many diseases because of the large number of valuable ingredients, each of which does its own work, and does not interfere with the others. Let our agent leave a bottle at the house. If there is no agent in your neighborhood, write to us, and we will see that you are supplied.

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We have a beautiful **Cook Book** and **Home Doctor** that we send free to all. It is full of valuable recipes and good wholesome advice. Everyone is surprised that we can afford to send out such a complete and beautiful book free. Write today. Send your name and address on a postal card.

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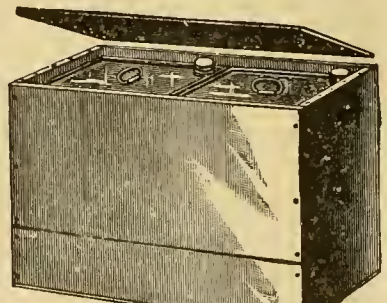
Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Write for Quantity Prices by Freight, if Interested.

A sample of either, by mail, 10 cents, to pay for package and postage.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 E. Erie St., Chicago, Ill.

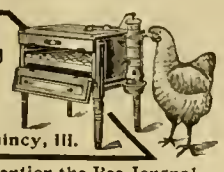
the extent of saying that I once saw a spider eat one of these bees. That spider was immediately so filled with vitality that she went on a stampede; and it is a fact that spiders could not stay in the vicinity of these hives.) Some of the colonies occupied 3000 sections at one time. I had to give an entrance the whole bigness of the hive-bottom.

Though the queen was endowed with such amazing vitality her claws would wear out as fast as those of an ordinary queen, and at the end of the sixth year she experienced difficulty in clinging to the combs. I experimented a long time before I discovered a way to help her. Finally I replaced her six feet with those of a young queen, cementing them on with royal jelly. The task was done so easily and well that the royal circulation was scarcely interrupted. I now practice giving her a new set of feet and new antennæ every second year, believing that it pays to do so.

Hoping to hear more from Dr. Gallup and the umbilical cord (pupaskinna castoflica),

Yours truly, BARON M. LIEAWFUL.

$12.80 For 200 Egg INCUBATOR



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We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .75	$1.40	$3.25	$6.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.20	2.30	5.50	10.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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I still have several hundred copies of the souvenir with the above title. The bee-papers and a good many people without visible axes to grind have said it is a valuable and attractive thing. If you should like to have a copy, send me a silver dime or 5 two-cent stamps, and I will mail you a copy.

"BEES IN COLORADO" is the title of a 48-page and cover pamphlet gotten up to boom the Denver convention. Its author is D. W. Working, the alert secretary of the Colorado State Bee-Keepers' Association. It is beautifully illustrated, and printed on enameled paper. It is a credit to Mr. Working, and will be a great help in acquainting those outside of Colorado with the bee and honey characteristics and opportunites of that State.—American Bee Journal.

D. W. WORKING, Box 432, Denver, Colo.

Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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7000 lbs. Extracted Basswood Honey, stored in basswood barrels and kits. Large barrels each holding 330 lbs. net; ½ barrels, 180 lbs.; kits, 33⅓ lbs. Prices—7½c per pound in barrels, and 8c in kits, f.o.b. cars at Viola. Cash must accompany order. Sample by mail, 10c. Address,

41A13t N. L. HENTHORN, box 83, Viola, Wis.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec 8.—There is no special change in the honey market, prices remain as last quoted and the volume of sales are not large. The weather is such as usually prevails at this season of the year, and the cold may induce people to buy more freely. Best lots of fancy white comb honey brings 16c per pound; No. 1 to choice, 15c; off grades, 2c to 5c less, and not much demand for them. Extracted, 7@8c for white; amber, 6@7c; Southern, 5½@6c. Beeswax, 30c. R. A. BURNETT & CO.

ALBANY, N. Y., Nov. 22.—Honey market is still in strong position with ready demand for all receipts at good prices. Fancy white comb, 16c; A No. 1, 15c; No. 2 and mixed, 14½@15c; buckwheat, 14@14½c. Extracted, buckwheat scarce at 6½@7½c; light grades more plenty at 6½@7c. Beeswax, 29@30c. H. R. WRIGHT.

BOSTON, Oct. 20.—Our honey market remains firm, with good demand and fair stocks on hand. Honey is not coming forward as fast as usual, and the tendency of prices is steady. We quote our market as follows: Fancy white 1-pound sections in cartons, 16c; No. 1, 15c; No. 2, very light supply, 14c; glass-front sections generally one cent less than this. Extracted, light amber, 8c; amber, 7½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Dec. 6.—We quote fancy white comb honey, per case 24 sections, $3.50; No. 1 white, per case 24 sections, $3.40; No. 2 white and amber, per case of 24 sections, $3.25. Extracted, white, per pound, 7c; amber, 6c. Beeswax, 27@30c.

Our market has chaoged quotations of comb honey from pound to the case.

C. C. CLEMONS & CO.

CINCINNATI, Dec. 8.—The demand for honey, both extracted and comb, has eased off somewhat the past few weeks, however the prices rule steady, as follows: Extracted, amber, in barrels, 6@7c; white clover, 8@9c. Comb honey, fancy, 16@17c; amber, 11@12c. Beeswax, 29@30c.

THE FRED W. MUTH CO.

NEW YORK, Dec. 8.—Demand for comb honey not quite as brisk, owing, we presume, to the fact that prices have been ruling higher. Supply, however, is moderate, and there is no other stock on the market.

Prices remain unchanged; fancy white, 15c., with exceptionally fancy at 16c; No. 1, 14c; No. 2, 12@13c; buckwheat and amber, 11@13c. Extracted, white, 7½c; light amber, 6½@7c; dark, 5½@6c. Beeswax in fair demand at 28@29c.

HILDRETH & SEGELKEN.

CINCINNATI, Dec. 12.—The comb honey market is a little quiet, almost everybody is filled up. As there is hardly any new supply coming in, there is no change in prices, namely: Fancy water-white, 16c; off grades less. The market for extracted white clover shows a slight advance. Fancy white clover brings 8½@9c; alfalfa water-white, 6½@7½c; but amber, if anything, has weakened. I quote same, in barrels, 5¼@5½c. Beeswax, 27@28c.

C. H. W. WEBER.

SAN FRANCISCO, Nov. 12.—White comb honey, 10½@11 cents; amber, 9@10c; dark, 5@—c. Extracted, white, 6@6½c; light amber, 4¼@5½c; amber, 3½@4c. Beeswax, good to choice, light, 26@27c; strictly fancy light, 29@—.

White is reported scarce; light amber honey in fair supply. The bulk of California produced honey is sold for Eastern shipment in carload lots from producing point at bottom price. Small lots of choice honey that can be used in local trade bring more. Quotations here given are current prices to producer, f.o.b. shipping point, on Eastern basis for extracted and California basis for comb.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

Wanted—Extracted HONEY Mail sample, and state style of package and price delivered in Chicago.

John F. Campbell, 53 River St., Chicago, Ill.

WANTED!

Honey and Beeswax. Mail sample and state price delivered Cincinnati. C. H. W. WEBER.

2146-2148 Central Ave., CINCINNATI, OHIO.

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Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF

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a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)

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25 years the best. Send for Circular. Smokers
25Aff T. F. BINGHAM, Farwell, Mich.

Tip-Top Glass Honey-Jars

The picture shown herewith represents the best one-pound jar for honey that we know of. It is made of the clearest flint glass, and when filled with honey, and a neat label attached, it makes as handsome a package as can be imagined. Its glass top sets on a flat rubber ring, and is held in place by a flat steel spring across the top as shown in the picture. It is practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these jars, f.o.b. Chicago, at these prices: One gross, $5.00; two gross, $4.75 a gross; five or more gross $4.50 per gross.

If you try them once you will likely use no other kind of top or sealing arrangement for honey jars.

GEORGE W. YORK & CO.
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ROOT'S GOODS
AT ROOT'S PRICES
Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.
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That covers the whole Apicultural Field more completely than any other published, send $1.20 to
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We guarantee Satisfaction. What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

BEESWAX wanted at all times.....

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And you are doubtless undecided as to what to get your friends for Christmas.

Why not get.....

The "Post" Fountain Pen

The very best in the market; regular price, $3.00, and not obtainable under this price anywhere. The Six Cardinal points Peculiar to the "Post":

Self-Filling, Self-Cleaning, Simplicity, Durability, Reliability, No Leaking.

Given Absolutely Free For two new subscriptions to Gleanings and your own renewal with $3.00; or for one new subscription and your own renewal with $2.50; or your own subscription will be advadced 2 years, and the Pen furnished for $2.50.

In each case all arrears, if any, must be paid in addition, the above offers being for subscriptions fully in advance only. We believe we can say truthfully, without fear of contradiction, that no fountain pen ever put upon the market ever received in so short a time so many unsolicited testimonials from such distinguished men as the POST. The above drawing shows its construction. To fill the POST, all you have to do is to dip the nib into the ink-bottle, draw out the plunger, and the pen is ready for use. Compare this with unscrewing the ordinary style, and refilling with a glass filler that you can not always find when wanted. The self-cleaning feature of the Post, as illustrated, will also commend itself. With most pens specially prepared ink must be used or they are soon of no use, because they become so gummed up and it is well nigh impossible to clean them. With the POST you simply dip the nib in water, draw the plunger back and forth like a syringe or squirt-gun, and in less than five seconds it is clean and free for a perfect flow of any ink that may be handy. We will send, on request, a few of the many testimonials from noted men in various callings who have written merited words of praise for this most valuable invention. We can not offer the pen for sale for less than $3.00; but by special arrangement we are enabled to offer it free as a premium with Gleanings in any of the following combinations: All arrears, if any, must first be paid at $1.00 a year. Then for $3.00 we will send Gleanings for one year, to two new names; for one year to yourself, and send you the pen free. For $2.50 we will send you the pen and Gleanings for one year, and to one new subscriber a year; for $2.50 we will send the pen and Gleanings for two years. If you have ever been disappointed with a fountain pen we assure you that you will not be with this one.

THE A. I. ROOT CO., Medina, Ohio.

☞ GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.